BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

In the Matter of the Petition of GTE NORTHWEST INCORPORATED for Review of its Authorized Rate of Return.	)	HEARING NO. UT-931591
	)	VOLUME 4
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A hearing in the above matter was held on October 3, 1994, at 9:30 a.m., at 1300 South Evergreen Park Drive Southwest, Olympia, Washington before Chairman SHARON NELSON, Commissioner RICHARD HEMSTAD and Administrative Law Judge LISA ANDERL.

The parties were present as follows:

GTE NORTHWEST, INC., by THOMAS R. PARKER, Attorney at Law, GTE Telephone Operations, 600 Hidden Ridge, (HQE 03J35), Irving, Texas 75038.

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION STAFF, by STEVEN W. SMITH, Assistant Attorney General, 1400 South Evergreen Park Drive Southwest, Olympia, Washington 98504.

FOR THE PUBLIC, DONALD TROTTER, Assistant Attorney General, 900 Fourth Avenue, Suite 2000, Seattle, Washington 98164.

Cheryl Macdonald, CSR
Court Reporter

I N D E X

P R O C E E D I N G S

JUDGE ANDERL: Let's be on the record. The Washington Utilities and Transportation Commission has set for hearing at this time and place docket No. UT-931591 which is captioned In the Matter of Petition of GTE Northwest, Inc. for review of its authorized rate of return. Today's date is October 3rd, 1994. We're convened at the Commission's headquarters in Olympia, Washington. My name is Lisa Anderl. I'm the administrative law judge who has been assigned to hear the case. Commissioner Hemstad and Chairman Nelson will be presiding. I'd like to go ahead and take appearances at this time beginning with the company. Mr. Parker.

MR. PARKER: Thomas R. Parker, 600 Hidden Ridge, Irving, Texas 75038, appearing on behalf of GTE Northwest, Incorporated.

MR. SMITH: Steven W. Smith, assistant attorney general, 1400 South Evergreen Park Drive Southwest, Olympia, 95804.

MR. TROTTER: Donald T. Trotter, assistant attorney general, 900 Fourth Avenue, Suite 2000, Seattle, 98164, appearing for the public counsel section.

JUDGE ANDERL: Thank you. We're convened

today to hear direct and cross-examination of staff's witness and public counsel's witness and also for the rebuttal testimony of the company. Are there any preliminary matters to come before us? Hearing none, Mr. Smith, your first witness.

MR. SMITH: Yes. Staff will call Kathleen M. Folsom.

(Recess.)

(Marked Exhibits T-5 and 6.)

JUDGE ANDERL: Ms. Folsom, while we were off the record your testimony was identified as Exhibit T-5 and your KNF-1 with 13 schedules was identified as Exhibit No. 6.

Whereupon,

KATHLEEN FOLSOM,

having been first duly sworn, was called as a witness herein and was examined and testified as follows:

DIRECT EXAMINATION

BY MR. SMITH:

Q. Would you state your name and business address.

A. My name is Kathleen M. Folsom F O L S O M. My business address is 1300 South Evergreen Park Drive Southwest, Olympia, Washington 98504.

Q. By whom are you employed and in what capacity?

A. I'm employed by the Washington Utilities and Transportation Commission as a utilities rate research specialist.

Q. Do you have before you a copy of what's been marked as Exhibit No. T-5?

A. Yes, I do.

Q. Is that your direct testimony in this proceeding?

A. Yes, it is.

Q. Prior to going on the record, we distributed five pages of revised testimony. Could you explain what changes are contained in those revised pages?

A. Certainly. When I first performed my analysis I mistakenly used the year ending GTE Northwest bond rating, S and P bond rating of double A minus. That rating was changed in April to an A plus. That had an effect on my overall recommendations, so the replacement pages that have been provided merely indicate every place where my recommendation changed. Essentially I was recommending a rate of return on equity from 11 percent to 11.6 percent. That number is now 11.1 percent to 11.7 percent, and the overall recommended rate of return has increased from 9.52 to 9.57 on the lower bound and 9.85 to 9.91 on the upper bound.

Q. Do you have any other corrections or additions to make to Exhibit T-5?

A. Yes, I do. On page 27, line 21, the author's name Richardson Pettit should be spelled with two T's, P E T T I T, and then on line 23, where it says "equilibrium price," the word "price" should be "value."

Q. Was that the extent of your corrections?

A. Yes, it was.

Q. With those corrections, if I were to ask you today the questions contained in Exhibit T-5, would your answers be the same?

A. Yes.

Q. Do you also have before you what has been marked as Exhibit No. 6?

A. Yes, I do.

Q. Is that the exhibit you refer to in your direct testimony?

A. Yes, it is.

Q. And was it prepared by you or under your direction and control?

A. Yes, it was.

Q. And does it also contain the revision you described for your direct testimony?

A. Yes, it does. Schedule 1 and schedule 2 have both been updated to reflect the changes and the ranges that I previously indicated, and then schedule 13 has also been changed to reflect the new bond rating and the differences in that equation as well.

Q. Do you have any other changes or additions to make to Exhibit No. 6?

A. No, I don't.

MR. SMITH: Your Honor, move for admission of Exhibit T-5 and Exhibit No. 6.

JUDGE ANDERL: Mr. Parker, any objections?

MR. PARKER: No objections, Your Honor.

JUDGE ANDERL: Those two exhibits will be admitted as identified. Ms. Folsom is available for cross-examination.

(Admitted Exhibits T-5 and 6.)

JUDGE ANDERL: Mr. Trotter, you had indicated you had no questions?

MR. TROTTER: Well, I prefer to go second, but at this point I don't have any.

JUDGE ANDERL: I'm just wanting to get the estimate clear. Go ahead, Mr. Parker.

MR. PARKER: Thank you.

CROSS-EXAMINATION

BY MR. PARKER:

Q. Morning. My name is Thomas Parker and I represent GTE Northwest. How are you this morning?

A. Fine, thank you.

Q. Your direct testimony was filed with the Commission on July 20 of this year; is that correct?

A. Yes, it is.

Q. And the change that you made to your direct testimony regarding the bond ranking, that bond downgrade occurred on April 25th of this year; is that correct?

A. Yes.

Q. When did you become aware of the bond downgrade?

A. Upon reading Mr. Hanley's rebuttal testimony.

Q. Now, you've been employed by the Commission since approximately 1988; is that correct?

A. Yes, I have.

Q. And could you tell me what other positions you have held with the Commission other than the one you currently have?

A. I haven't held any other previous positions other than a lower specification of my current job; i.e., I was a utilities rate research 1, now I'm a 2.

Q. And prior to 1988, you worked for Household Finance Corporation; is that correct?

A. Yes, it is.

Q. And during your employment with that company, were you ever responsible for lending money or analyzing credit of public utility companies?

A. No, I wasn't.

Q. Can you tell me on how many occasions you have testified as an expert witness on the cost of common equity?

A. I believe I provided in a data response the only formal testimony that I have submitted to the Commission on rate of return issues.

Q. And would I be correct in my understanding that the response that you gave is you basically just adopted the Commission's generic return in those proceedings?

A. I wouldn't characterize it that way. This was a very limited proceeding, and for those purposes I utilized the mandatory cost change indicated returns, but I also investigated them to make sure that they made sense and were reasonable in the time frame that they were to be used.

Q. Did you perform an independent study of the cost of common equity for each of the companies in that proceeding?

A. No, I did not.

Q. Can you tell me how many statistic courses you took while you were in college?

A. Approximately four or five as a graduate, as a graduate student or undergraduate.

Q. Undergraduate?

A. Undergraduate I would say five semester courses.

Q. How about when you were in graduate school?

A. At least two.

Q. And have you ever taken an econometrics course?

A. No.

Q. Now, if I could turn your attention for a moment to page 7 of your direct testimony. And as I understand your testimony on page 7 that begins approximately at line 5, you discuss a little bit about the operations and environment in which GTE Northwest operates; is that correct?

A. Yes.

Q. And would it be a fair characterization of your testimony on page 7 and 8 that the facts that you

set forth basically end at the end of 1993?
A. No. In particular starting at line 22, I believe that's an indication of both current and future activities in the industry, carrying over to page 8.
Q. Now, you recognize that there are competitors in the market in which GTE Northwest operates; is that correct?
A. There's potential competition, yes.
Q. Is there competition today?
A. In certain markets there may be limited competition.
Q. And what are those markets?
A. Wireless, for example, would be a good example.
Q. What other markets can you think of, Ms. Folsom?
A. That would be probably the primary market that I can think of that currently exists. I believe I've indicated what the potential for future competitors might be in my testimony.
Q. Do you believe that there is toll competition in the state of Washington?
A. Yes.
Q. And do you believe that there's pay phone

competition in the state of Washington?
A. Yes.
Q. How about operator service, operator services?
A. Yes.
Q. How about switched access?
A. To some extent, yes.
Q. How about shared tenant providers?
A. Certainly.
Q. And is there local exchange competition in Washington?
A. In a very, very limited sense, and I think looking at current market shares they're still extremely high.
Q. Now, have you made an examination of the competitive markets in which your comparable companies operate?
A. To the extent that I've looked at their annual reports, their 10Qs, 10Ks.
Q. If I were to take you through a series of questions that I just went through in the state of Washington, would you have that knowledge for each of your comparable companies?
A. Not for each company specifically, no.
Q. Ms. Folsom, are you of the opinion that

Washington is one of the leaders in the country in encouraging competition and entry into the local exchange network?
A. I believe that Washington is one of the states that's encouraging competition.
Q. Do you think you're in front of the curve, on top of the curve, or in back of the curve?
A. My opinion is that we're on the curve somewhere. I don't know.
Q. Are you aware since 1985 that this Commission has approved 200 new telecommunications firms in this state?
A. I knew we had approved -- we approved new telecommunications companies, yes.
Q. Are you aware that there have been four switched access providers authorized since March of 1994?
A. Generally, yes.
Q. Could you tell me who those providers are?
A. No.
Q. Can those providers provide local exchange service?
A. In --
MR. TROTTER: Excuse me, Counsel. Is that legally or physically or financially?

MR. PARKER: I will rephrase the question.

Q. Under their existing registration, can they provide local exchange service?

A. I believe that -- and again, I wasn't the one that reviewed those applications, but they have -- when they have desired to provide local exchange service they have come in and asked for an amendment to the registration.

Q. Are you aware that it took less than 30 days for those carriers to receive that registration to provide local exchange service?

A. That's the normal clock for any registration.

MR. TROTTER: Your Honor, I will object to the question. There's no foundation in fact presented. As I recall, one case took at least three years.

JUDGE ANDERL: I think she answered it to her recollection. I will overrule the objection.

Q. To your understanding, as a layman -- I'm not reaching for a legal conclusion here, Ms. Folsom -- is it your understanding that no local exchange carrier here in this state has an exclusive service territory?

MR. SMITH: Counsel, would you clarify the question? Exclusive as being sole provider now or exclusive as having a legal right to exclusively serve a given territory?

MR. PARKER: I will rephrase the question.

Q. Based on your understanding as a staff member, Ms. Folsom, can any competitor file an application or registration with this Commission to compete with the local exchange carrier in that local exchange carrier's existing service territory?

A. As a layperson, essentially that's my understanding, yes.

Q. And have you done any analysis to determine whether your comparable companies have exclusive service territories or whether they are subject to competition from competitors?

A. Again, I've performed a pretty careful review of each company's annual report, various reports to stockholders, 10Ks, 10Qs the different types of competition that they might face. I'm unaware of whether the franchise issue exists in their serving territories or not.

Q. Are you aware of whether GTE Northwest is currently in negotiations with Teleport, ELI to arrange for interconnection for local switch transport?

A. Generally aware.

Q. Now, if I could turn your attention to page 8 of your testimony on line 9, you make the statement, "All these factors indicate an industry which is undergoing tremendous change." Did I read that correctly?

A. Yes, you did.

Q. Would you agree with me that that tremendous change includes changes in both how markets are structured and the deployment of technology?

A. As well as increase in mergers and acquisition activities, yes.

Q. And would you agree with me that the purpose of setting a return in this case is to set that return on a prospective basis?

A. Yes, it is.

Q. Now, as I understand your testimony, Ms. Folsom, you have used GTE Northwest's actual capital structure as adjusted for your short-term debt number; is that correct?

A. Essentially that's correct. I use the company-reported ratios from their books and records, performed an investigation of those numbers to determine their reasonableness and came to the conclusion that they would be reasonable for the purposes of this testimony.

Q. And am I correct in my understanding that you believe that GTE Northwest uses short-term debt to finance construction and working capital requirements?

A. I believe that, and I think that the data provided by the company indicates that as well.

Q. And would you agree with me that the level of short-term debt that is ultimately included in the capital structure must be representative of the level that is anticipated to occur in the future?

A. That would be one of the tests, yes.

Q. Could I turn you to schedule 4 of Exhibit 6, please. And that is where your short-term debt number is set forth; is that correct?

A. Yes. Those are the average monthly balances I used to calculate the level of short-term debt that I use in my testimony.

Q. And you have included about 7.1 percent short-term debt in the capital structure which equates to about 127 million dollars; is that correct?

A. Yes.

Q. Now, am I correct in my understanding of schedule 4 which appears in Exhibit 6 that the numbers that appear thereon for 1992, 1993, 1994, that those numbers were not adjusted to remove any items that were nonrecurring in nature; is that right?

A. Those numbers are the numbers that were reported in a data response by the company as the average monthly balances of short-term debt.

Q. So no adjustments have been made to the numbers on schedule 4 in any manner, the report numbers?

A. I did not make any adjustments.

Q. If this were a rate proceeding, Ms. Folsom, would you have done this three-year analysis?

A. Yes.

Q. Is it common at this Commission for those people analyzing the capital structure to go out and do a three-year analysis such as this?

A. I think it's common when circumstances warrant for staff to come up with a reasonable time frame, and in this case I've indicated the reasons why I used the three-year average monthly average, and I believe starting at line 18, page 19, I was attempting to mirror the period during which a decision in this case might be expected to remain in effect, and I also was attempting to edrive a period of time that was long enough to capture these cycles of taking out the short-term debt with more permanent financing.

Q. Can you tell me in any decision of this

Commission where they have adopted a 37-month approach setting a short-term debt to capital structure?

A. I am unaware of that.

Q. Isn't it typical that in a rate case the Commission uses the short-term debt and the capital structure that lines up with the rate base?

A. Generally speaking that would be true of any of the costs, but it also can be adjusted if circumstances warrant, and I believe I've indicated that in this case circumstances do warrant that.

Q. Now, on page 19, line 22, you state that your three year average is sufficiently long to reflect periodic variations attributable to permit financing activities; is that correct?

A. Yes, I did.

Q. Can you tell me the analysis that you performed of GTE Northwest's permit financing activities?

A. I reviewed Commission orders in which GTE Northwest had asked for a portion of the proceeds to be used for the retirement of short-term debt. I examined the balances that were provided to me to see if any of those indicated a decrease that would be likely attributable to permanent financing, and upon doing so I came to the conclusion that three years was sufficient to capture a cycle.

Q. Have you performed an analysis where you have formed a conclusion as to whether or not a cycle exists when GTE Northwest rolls over short-term debt with long-term financing?

A. Could you clarify what you mean by cycle.

Q. Is there any particular pattern, routine or trend as to when the northwest company rolls over its short-term debt in terms of time?

A. No.

Q. Are you aware of how much of your $127 million in short-term debt is attributable to bridge financing?

A. I believe that Mr. Hanley provided that in his rebuttal.

Q. Were you aware --

A. I can look it up.

Q. That's all right. Were you aware of that at the time you wrote this testimony?

A. No.

MR. PARKER: Your Honor, at this time, and I don't want to mark it as an exhibit but I would like to discuss a schedule that will be presented by Mr. Hanley when he takes the stand in his rebuttal capacity and I would like to hand that out at this time if that's all right.

JUDGE ANDERL: Okay. It may end up having to be an exhibit just so that we all -- so that the record is clear --

MR. PARKER: Whatever your preference.

JUDGE ANDERL: -- but you can go ahead and distribute it now. Is it something that was prefiled with his rebuttal testimony?

MR. PARKER: Yes, it was.

JUDGE ANDERL: Just for identification the document that I've been handed is a single sheet. It is identified as Rebuttal Exhibit FJH-2, schedule 4.

MR. PARKER: Thank you.

Q. Have you seen this document before in preparation for this hearing, Ms. Folsom?

A. I reviewed it when I reviewed Mr. Hanley's rebuttal testimony.

Q. And would you agree with me that what this schedule sets forth is a normalization of the short-term debt of GTE Northwest when the sale of certain properties to Citizens Utility Company and the redemption of certain high cost debt is removed. Do you agree with that?

A. That's what it's purported to state, yes.

Q. Do you have any reason to believe that that

is not accurate?
A. No.
Q. And would you agree with me that the sale of utility properties is not related to construction or working capital requirements?
A. Specifically that wouldn't be part of the definition of construction in working capital. However, it may very well be a normal use of short-term debt financing.
Q. Are you aware of any other sales of property that the northwest company has done in the past ten years?
A. I believe that there's some indication in the annual reports that some minor sales of exchanges have occurred.
Q. And when was that?
A. In the 1990 time frame. That's my recollection.
MR. PARKER: Like to have an exhibit marked, Your Honor. It's entitled GTE Northwest, Incorporated Overall Rate of Return.
JUDGE ANDERL: Next exhibit in line for identification is No. 7.
(Marked Exhibit 7.)
JUDGE ANDERL: As Mr. Parker said, that

document is a single sheet entitled GTE Northwest Incorporated Overall Rate of Return.

MR. PARKER: Did I give anybody the exhibit that had handwriting on it?

Q. I will represent to you, Ms. Folsom, that what this exhibit is is a redo of your schedule or your computation of overall rate of return with Mr. Hanley's level of short-term debt placed in it in lieu of your 7.16 percent.

A. And without the correction to the range of common equity that I made this morning.

Q. Correct. And if that correction was put in there, the 6.49 percent to 6.84 percent which appears on the right-hand side of the exhibit under the column entitled Weighted Cost would become 6.54 percent to 6.9 percent and the total would become 9.87 percent to 10.23 percent. Does that exhibit appear reasonable to you in terms of mathematics and representation?

MR. SMITH: Your Honor, I'm going to object unless she's given time to do the calculation or can accept it subject to check. But this is our potentially last day of hearing.

MR. PARKER: It's a very easy calculation, Your Honor. All I've done is switch short-term debt. I will rephrase the question if she will accept it subject to check.

JUDGE ANDERL: That may be the best thing.

A. Subject to check, yes.

JUDGE ANDERL: Are you offering Exhibit 7 at this time?

MR. PARKER: Yes, I would.

JUDGE ANDERL: Any objection, Mr. Smith?

MR. SMITH: No objection.

JUDGE ANDERL: Mr. Trotter?

MR. TROTTER: No.

JUDGE ANDERL: Exhibit 7 will be admitted.

(Admitted Exhibit 7.)

Q. You used the RBOCs as your comparable group of companies; is that correct?

A. No. I used the 11 companies that I've stated in my testimony which would include more than just the RBOCS.

Q. You are correct. The RBOCS are included in your comparable group of companies; is that right?

A. They are part of that group, yes.

Q. Are you aware of what their average long -- or short-term debt averages are?

A. Give me just a second.

A. Yes, I am.

Q. Now, Ms. Folsom, I would like to turn your attention to your regression analysis at this point if I could. Did you run a step-wise regression?

A. I ran a regression that started with theoretically conceptualizing which variables I thought would indicate -- would be a good indicator of risk, the 20 or so that I believe I provided in a data response, many of which Mr. Hanley also used. From that I set a selection criterion that the combination which would produce the highest adjusted R squared or the best equation would be the combination that explained the most variation in my DCF-indicated results; and then the computer program ran those combinations and provided me with good statistics that were a check of the reasonableness of the variables that I came up with, as well as more intuitive measures which I believe I indicated in my testimony on each of the variables starting at page 50; of looking at the sines as well as the variable itself to see if it made sense; and in all cases these variables made sense and they had high statistical analysis as well, but my first point in doing this regression was to come up with a set of variables that I thought would make sense. So, I started with the theory and then developed a probable equation and then went from there.

Q. Let me see if I understand. This statistics confuses me. Your hypothesis that you took to begin with were your 23 variables; is that correct?

A. Those were the variables that I started out with because they're all financial variables that can be a measure of risk, yes.

Q. Let me read you a definition of step wise regression, and you tell me whether you agree with it or not. "Step-wise regression tests a set of independent variables and decides whether or not to include them based on a predetermined level of significance." Would you agree with that?

A. I believe that's -- it's one definition but I didn't start with a predetermined level of significance. I started with variables that I thought would make sense.

Q. Okay. Let's do a little statistics background and make sure I know what I'm talking about here. Would you agree with me that statistics is a discipline that attempts to draw inferences from data?

A. And attempts to explain and attempts to predict, yes.

Q. And would you agree with me that statistics is about trying to uncover causalities from data or, in other words, what is related to what?

A. I would prefer to characterize it as it tries to explain. It's an explanatory tool.

Q. And in order to explain something, wouldn't there have to be a causal relationship between the variables?

A. In the case that we're looking at here, obviously that's one of the things that I tested for, does it make sense; would you expect risk to increase if, for example, the bond rating was decreased, and it did; and in fact it worked very well because when the bond rating in fact went to an A plus, my cost of equity estimate went up.

Q. Now, let me turn your attention to page 44 for a moment, just to give you a point of reference. Your purpose in running a regression in this case is to try and project the return on equity for GTE Northwest based on data taken from your comparable companies; is that correct?

A. My purpose for running the regression is -- and I believe I stated it on page 44 starting at line 11 -- is to try and systematically explain the differences in all of the DCF-indicated costs of equity for my comparable group; to take those variables which explain the most difference and then use GTE Northwest's specific numbers and come out with a final recommendation.

Q. Okay. And the difference in the cost of equity for your 11 companies are the risks that the investors perceive in each company. Would you agree with that?

A. The differences in those costs of equity are dependent upon the differences in the risk characteristics of each company, and I believe that I've provided several pages dealing with the difference in each company as well as schedule 11 which graphically shows some of those differences.

Q. Could you tell me what the term "null hypothesis" means?

A. It's a statistical term which tests for whether or not something is different than in this case the null hypothesis.

Q. And the way you ran your regression analysis, if I've understood you correctly, is that you started out with a null hypothesis, and in this case your null hypothesis was 23 variables?

A. Could you explain a little further what your question is? I'm not understanding your example.

Q. Certainly. Would you tell me what your null hypothesis was that you used when you started your analysis?

A. When I started my analysis I started with the premise that there were variables that could explain differences in risk that didn't happen just by chance.

Q. Would you agree with me that one can never prove a null hypothesis with statistics, it can only be disproved?

A. That's the standard statistical test.

Q. In your undergraduate and graduate studies on statistics, have you ever run into the book of Quantitative Research Methods for Business and Economics by Howard L. Balsley?

A. I may have. I don't have a strong recollection of it.

Q. Let me read a portion of this to you and see whether you agree with it or don't agree with it based on your education.

MR. PARKER: I would note for the record I'm reading from Quantitative Research Methods for Business and Economics by Howard L. Balsley, 1970, Random House, New York.

Q. "Correlation measures the degree of association among variables. A high degree of association between two variables as revealed by a coefficient of correlation approaching 1 does not, however, reveal which variable causes the other to react and therefore does not identify one variable as independent and the other as dependent. Establishing the causes of association is beyond the power of correlative analysis. Causal relationships can be determined only by outside knowledge, for example, knowledge of economics or business relationships."

Do you agree with that statement or disagree with that statement?

A. I would agree with that statement, but I believe I've indicated that in fact I ran the regression to attempt to explain the differences. The statistics that were derived from that -- indicate that, that this equation explains it very well, and we know that if we did what, for example, Mr. Hanley did, which is just take a simple average, that none of the companies look exactly like the average and nor does GTE Northwest. This was a statistically correct way of trying to explain those differences in a more precise way.

Q. Now, in terms of -- let me turn you to page 49 of your testimony. And that's where you set forth your regression equation, is that correct, or your result?

A. This is where in narrative form schedule 12

and 13 indicate the mathematics.
Q. And am I correct in my understanding that the standard interpretation of the right-hand side variables are that they are independent or explanatory variables?
A. And the K in this case, the DCF indicated cost of equity, is a dependent variable, yes.
Q. Yes. And the reason that you have independent variables and dependent variables is that the dependent variable is caused or explained by the independent variable; is that correct?
A. The independent variables explain -- the independent variables, coefficients associated with them, if they are statistically significant, explain differences in the dependent variable.
Q. When you say statistically significant, you're referring to R squared?
A. As well as the T value and the F statistics, those are the primary statistics I relied upon.
Q. Now, if I could direct you to page 48 of your testimony, please. Down on line 22, you state, "I found a regression equation by which the cost of equity can be predicted as a function of a firm's bond rating," and then the sentence goes on to pick up your

other independent variables. Can you tell me where you found this regression equation?
A. After applying -- running this through the statistical program this was the equation which had the highest explanatory power.
Q. How many times did you run the program?
A. I would estimate four or five times.
Q. And each time that you ran the program you ran it with different combinations of variables?
A. Yes. Some of those combinations may have included the same variables with a change.
MR. PARKER: Like an exhibit marked, Your Honor. It is staff's response to company data request or discovery request No. 20.
JUDGE ANDERL: Next exhibit in line is Exhibit No. 8.
(Marked Exhibit 8.)
Q. Do you recognize Exhibit No. 8, Ms. Folsom?
A. Yes, I do.
Q. And could you state for the record what that is?
A. These were the variables all provided by Standard and Poor's Compustat that I considered in my determination of a regression analysis.
Q. And this document was obtained during

discovery; is that correct?
A. Yes, it was.
Q. Now, keeping Exhibit No. 8 in front of you, while also looking at page 49, the universe with which you started were the variables on Exhibit No. 8; is that correct?
A. The universe, no. The universe that I started with was a wider world of variables that I considered and these were the ones that I determined were most likely to or could -- not even most likely -- they could explain some of the risks.
Q. What was the wider world of variables?
A. It would have included other variables, financial variables, that could in fact have possibly measured the same thing. For example, ROE 93 could have been ROE 92 or ROE 91. There's other variables but these were the ones that from a theoretical standpoint I believed were most likely to have some explanatory power.
Q. Was there any single location where this wider world of variables were or is this something that you compiled through research or what?
A. It's a basis of through my expertise in analyzing a wide range of publications.
Q. So would it be a fair characterization that

your wider world of variables was a list or some sort of compilation that you put together based on your experience in the area?

A. It's based on a general understanding, yes.

Q. Now, how did you get from your wider world of variables down to your variables that are set forth on Exhibit 8?

A. The first test would have been does the variable make sense from a theoretical view. Another test was does it measure the same thing.

Q. Is that it?

A. And then the last test would be was data available, so is it empirically available.

Q. So after you did all that, we ended up with your variables set forth on Exhibit 8?

A. Yes.

Q. Now, could you tell me what combination of variables you ran every time you ran the regression?

A. No.

Q. Why not?

A. I don't have a recollection of which ones were tried first. It was done on inspection. I looked at the statistics, the sines of the coefficients, to see if they made sense, to see if the coefficients themselves or the independent variables

made sense, and then re-ran it, but it's the normal process of running the computer program.
Q. So you started -- you didn't start -- you had your variables that are set forth on Exhibit No. 8. Then they were narrowed down to your final variables based on tests of statistical significance. Is that fair?
A. No. Based on the criterion that they had to have the combination with the highest explanatory value, and in this case whether you look at the R squared or the adjusted R squared they explain a lot, and R squared of 1 would mean they explain everything, and R squared of zero would mean they explain nothing. A .92 or a .95 means they explain a lot.
Q. We'll get to R squareds. Don't worry. We'll have plenty of time to talk about that, but right now I'm just trying to figure out how these variables got here. The regression analysis selected your final variables that ended up on page 49; is that correct?
A. The criterion that I set selected which combination of variables appear on page 49.
Q. And the criteria that you selected, I'm sorry, was what?
A. Which variables would produce or which

combination of variables would produce the highest adjusted R squared.

Q. And you set that limit at what? 95?

A. I don't recall. I can get you that number.

Q. That's all right. Once you set your R squared, then your regression model or equation either kept or rejected the variables based on the R squared; is that correct?

A. No. When I said criterion, when I physically looked at them which ones had the highest -- could produce the highest R squared and I stopped with the model that looked like it made the most sense.

Q. But whether you kept one of the 20 variables here or not was dependent upon which ones produced the highest R squared?

A. And whether, as I've indicated in my testimony, it made theoretical sense, whether the signs were correct -- you know, whether from a theory point of view you would expect, for example, bond rating to be a good indicator of risk, and whether you would expect that sign to be negative or positive.

Q. Are you done?

A. Yes.

Q. So the regression analysis produced the variables with the highest R squared and then you applied your expertise to those variables to see if it made sense. Is that fair?

A. The regression analysis produced those variables, the combination of four variables indicated in my testimony with a very high adjusted and nonadjusted R squared, good T statistics, good F value and then they made intuitive sense as well.

Q. But what you didn't do -- and I don't mean that pejoratively, but you didn't take bond ratings, return on equity, toll revenues and beta and say these make intuitive sense to produce an estimated cost of equity and then ran your regression. You did it the other way around. You came up with 20 variables and came up with the final four. Is that fair?

A. I started out with 20 variables that all made intuitive sense and came up with the final four.

Q. When you came up with your 20 variables before you ran your regression, did you do any type of analysis as to whether any one or several of those variables were more probative of having effect on cost of equity than other variables?

A. Could you explain what you mean by probative.

Q. More significant. Did you have in your

mind as a person with responsibility for return on equity whether, perhaps, access lines, just to pick one at random, might be more explanatory of an effect on return on equity rather than payout ratio?
A. No.
Q. So you assumed going into the regression analysis that all 20 of the variables were equal or potentially equal?
A. I may have had some sense of which variables, at least initially, I thought might do a good job of explaining those differences.
Q. But you didn't separate out those variables upfront and then go test them; is that correct?
A. Other than in performing the first run-through. I mean, obviously I had to make a choice, or I made a choice.
Q. Ms. Folsom, do you recognize a distinction between causality and association?
A. In terms of a regression, is that what you're --
Q. Yes.
A. Causality is based on a cause and effect relationship.
Q. Is it possible that there can be association without causation?

A. It may happen.

Q. Would you agree with me, based on your education in statistics, that causation comes from aan assumption that certain theories or relationships are true?

A. Could you repeat that, please.

Q. Does causation come from assuming that certain theories or relationships are true?

A. Yes.

Q. And association means that items are related to one another but they do not cause one another; is that correct?

A. That would be a definition, yes.

Q. Would you agree with me that a reasonable definition of R squared is that it's the coefficient of determination which measures the percentage of the total variation of the dependent variable which is associated with the variation of the independent variable in a regression analysis?

A. That would be the long definition. I think a more easily understood definition would be how much does that equation explain, and again, a 1 would mean it explains everything, how much those independent variables explain.

Q. And to make it even more uncomplicated,

we're talking about the goodness of fit; is that correct?
A. Yes.
Q. And would you agree with me that you can have goodness of fit, or a high R squared, where there is absolutely no causation?
A. You could have a high R squared, and for example, have the sine of one of your coefficients be theoretically untrue or doesn't make sense.
Q. Have you ever heard the example in the financial markets from time to time that the Wall Street goes up when women's skirt lengths go up?
A. No.
Q. Let's assume that that's true. If that was true, one could run an R square on that and come up with a very high number close to 1 or even be 1; is that correct?
A. But I would expect that the T statistic would tell me whether that was a significant coefficient or not, a significant variable. I mean, it would be similar to if I had included the astro-logical sign of all the CEOs in my analysis, for example. I would expect that the T statistic I got would tell me that that doesn't belong. I mean, it's the same kind of analogy.

Q. But the R squared in and of itself, you can have a high R squared with absolutely no causation?

A. You can have a high R squared and have an equation that doesn't make sense.

JUDGE ANDERL: Mr. Parker, before you go on to your next questions I would like to take a morning recess now. Be back in 15 minutes.

(Recess.)

JUDGE ANDERL: Let's be back on the record after our morning recess. Mr. Parker, you can continue with your questions for Ms. Folsom.

MR. PARKER: Thank you, Your Honor.

Q. Ms. Folsom, before we start up after the break here, let me see if I can ask a short series of summarizing questions and see where we are. When you performed your regression analysis you ran your regression to see which one of your variables had the highest R squared; is that correct?

A. I ran my regression to determine which combination of variables would explain the most of the variance in my DCF-indicated cost of equity.

Q. And in the process of doing that, you looked at the R squares, the T scores, and the sines of the coefficients; is that correct?

A. I looked at several statistical measures, such as the R squared, the adjusted R squared, the F value, the T values, as well as I looked to see how it comported with financial theory, i.e., does the sign make sense, does the variable itself make sense as an explanatory variable in terms of risk.

Q. And when you looked at it as to whether or not it made sense, one of the primary things you looked at was whether it was a positive or negative coefficient; is that correct?

A. That was one of the things I looked at. I also looked at whether the coefficient was statistically significant, whether it had a high T value or not, and I believe starting at page 50, I set forth all of those considerations.

Q. In your statistical studies, did you ever come across a book called Econometric Methods by M. Dutta, D U T T A. Does that sound familiar?

A. No, it doesn't.

Q. Let me read you a passage from that book and see if you would agree or disagree with this statement. "We would like to know what proportion of the variance of the dependent variable can be associated with the variance of the independent variables. In statistical analysis it is possible to compute R squared, the coefficient of determination, and R, the coefficient of correlation. These coefficients corrected for degrees of freedom yield R squared with a line on top and R with a line on top. It is customary to report such statistics in econometric work. However, there is often misguided emphasis on obtaining a high value of R or R squared and a word of caution against correlation pushing is important. The hypothesis based on a priority economic theory is, adequately tested, a low value of R is not so bad. Correlation analysis is commonly used to provide the test for what the statistician calls goodness of fit. The correlation problem arises when the researcher asks whether or not there exists any relationship between the variables under investigation, say, between price and quantity, in the two variables case, or between quantity demand on one hand and the price of the commodity and the income of the purchaser on the other hand in a multivariant case."

Do you agree or disagree with that statement?

MR. SMITH: Your Honor, I think I'm going to object. There are a lot of statements in that quotation and I don't know whether the witness can answer or not, but a flat agreement or disagreement I think is improper given the compound nature of the quotation.

MR. PARKER: I think that's fair, Your Honor, let me withdraw and tailor the question.

Q. From the quote that is read here, Mrs. Folsom, do you agree that there could be undue emphasis placed on R squared?

A. In the context of the correlation model that you have here as opposed to a regression model?

Q. Yes.

A. It would be difficult for me to answer that since I applied a regression model to start out with and there are differences. One of the things is that the adjusted R squared accounts for some of that emphasis on the R squared by essentially penalizing you every time you add a new variable, because you could add as many variables as you could think of and the R squared would never get worse, so my adjusted R squared is still .92, which is very high.

Q. How about the context of that statement and regression analysis. Do you agree or disagree?

MR. TROTTER: Excuse me, Your Honor. Is this question adding a context to the text that is not in the text itself?

Q. Do you agree that undue emphasis can be

placed upon R squared in regression analysis?
A. I believe that emphasis can be placed on the R squared and should be placed on the R squared in conjunction with all of the other things that I've been speaking about, the T values, the F statistic, the theoretical sense, the comportment with financial theory.
Q. Are you done?
A. Yes.
Q. Would you agree with me that at best R squared gives you a strength of association that does not give any information on causation?
A. Yes, but again, I'm not trying to measure causation. I'm trying to measure explanatory value of a set of independent variables.
Q. How can you have explanatory power without causation?
A. From a statistical standpoint -- I believe you asked me a question earlier about the definition of causation. From that standpoint, there may or may not be causation. Just simply is an explanatory tool of how reliable the predictions will be that are based on this multiple regression equation.
Q. If I understood your answer, you are saying you can have a variable that has explanatory power

on the one hand, but on the other hand it would not causally effect a change in the dependent variable?

A. Could you clarify what you mean by "causally" in that statement?

Q. That the independent variable is a reason as to why the dependent variable changes.

A. The independent -- in this case the independent variables explain why there's differences in the dependent variables. To the extent that they explain those differences they're causing the difference -- those risk factors would cause the differences.

Q. So now you're saying that causality and explanatory power are one and the same?

A. No. In the explanation that you gave me, I was putting it in that context, but in a statistical context, they're not.

Q. One can have a high degree of association without any causation; is that correct?

A. Yes.

Q. Do you still have Exhibit 8 available, Ms. Folsom?

A. Yes, I do.

Q. And I would like to take this in two steps. First step being what you categorized earlier as your

wider world. Your wider world variables, have they ever been subject to any type of peer review?
A. Could you clarify what you mean by that?
Q. Has your wider world of variables ever been put before other learned folks in the field of finance, and have they done an analysis to determine whether they think on a theory basis those variables should be explanatory of something?
A. No.
Q. Let's go to page 49 of your testimony. And on lines 5 through 8 those are your independent variables that you ended up with from your regression; is that correct?
A. Yes.
Q. Let's take a look at bond rating for a moment. If I understand what you've done there is that you have assigned numbers in numerical order from the highest bond rating down to the lowest bond rating; is that correct?
A. Yes.
Q. So if I had a bond rating of 1, which would be very good, the way you would compute this would be 1 times .143 which appears on line 5 of page 49; is that correct?
A. Yes. Yes, it would be.

Q. And likewise, if you had a bond rating of 8 you would have 8 times .143 and that would be the factor that would go into solving your equity?
A. Yes.
Q. Now, in applying that numerical rating, did you consider whether bond ratings are viewed by investors in a numerical manner, and by that -- that was probably poorly worded. What I mean is that a double A -- the difference between a double A and a double A minus is only 1 as opposed to a double A -- or a triple A minus is more than 100 percent worse than a triple A?
A. I lost the first part of your question.
Q. I did, too. Let me try it again. My question is you have assumed that every difference in bond rating is the same numerically?
A. I have assigned a constant scale to the bond ratings, yes.
Q. Thank you for helping me out. In terms of theory, have you considered whether that constant rating makes sense or whether as you go down the scale of bond ratings those ratings become progressively worse in the eyes of the investors? And by that I mean an investor would look at a security that had a triple A rating and one that had a triple A minus

rating and we would think that that triple A minus was a lot worse than a value that a constant ranking would give it?

A. What I considered was that a difference in bond rating from the highest bond rating to the next to the next deserves some indication of that difference, and I, in my judgment, assigned a one-step difference for each rating.

Q. Do you have an opinion as to whether that's how investors look at difference in bond ratings or do you think that they think as you go down the bond ratings it becomes sequentially worse?

A. I believe that the bond rating is primarily an indication of default risk and as well as a wide variety of other financial variables, and investors look at all bond ratings.

Q. But my question is, do they look at it on a constant ranking, or are there increased detriments put on a bond rating as it goes lower or do you know?

A. I believe that they look at it as an indication that it's different, that it's worse as you go down the bond rating scale.

Q. So an investor would not look at it on a constant rating as you have?

A. They may look at it on a constant rating,

yes.
     Q.   What you have set forth on your bond rating, that's a linear ranking of bonds; is that correct?
     A.   Linear.
     Q.   Constant ranking?
     A.   Yes.
     Q.   Are you aware of any theoretical or empirical support for this linear ranking?
     A.   No, but it's a common way of trying to assign a value to a bond rating in conjunction with a whole stream of other variables all of which have different scales and in indicating that one is different than the other one, for example, triple A is a 1 and so forth.
     Q.   If you don't have any theoretical or empirical support how can it be a common way of doing it?
     A.   You asked me if I had theoretical support for assigning a number to a bond rating.
     Q.   Yes.
     A.   And what I said was in doing my analysis it's common to take variables and assign a constant scale to them in order to make them comparable with the other variables, and in this case, to indicate

that there's a difference between a triple A and a triple B, for example.
Q. I apologize. So when you say it's common you're talking about putting constant rankings on other variables other than bond ratings?
A. I'm talking about the kind also that I did.
Q. Now, am I correct in my understanding that bond ratings are set by analysts?
A. Bond ratings are set by firms such as Standard and Poor's or Moody's.
Q. And would you agree with me that when Standard and Poor's or Moody's sets a bond rating one of the things that they look at is the return of the company?
A. If you look at page 50, starting at line 15, and going on to page 51, I indicate that a bond rating firm looks at a stream of variables, primarily starting with the default risk, but a whole host of associated financial statistics.
Q. And on page 50, line 23, where you talk about quality of earnings, would that encompass the return of the company?
A. It could.
Q. And likewise, going back to page 49, you

have separate and distinct variable for the most recent historical earned ROE?

A. Yes.

Q. And the dependent variable, what you're trying to solve for, on page 49, is return on equity; is that correct?

A. The dependent variable that I'm trying to solve for is the DCF-indicated cost of equity for GTE NW in the future.

Q. So am I correct in my understanding that you have return on equity both on the left side and the right side of your equation?

A. What I have on the left side is an expectation of a future expected return on equity. What I have on the right side is an actual earned return on equity at near term earned return on equity.

Q. And going up to the bond rating, that would likewise be an expected return on equity; is that correct?

A. For the K, yes.

Q. So you have ROE considerations on both the left side and the right side of your equation; is that correct?

A. I have a future expected DCF-indicated ROE on one side. I have an actual book return, earned

return on equity -- the other was on the left side -- on the right side.
Q. And that's line 7.031; is that correct?
A. .030?
Q. I apologize, you're correct.
MR. TROTTER: Line 6? I'm sorry, I'm lost.
MR. PARKER: Yes.
A. That would be a minus .030.
Q. What is the return on equity that a rating agency uses when they're setting a bond rating that would likewise be an expectational return on equity, would it not?
A. At page 50, line 23, when I was talking about quality of earnings, things like cash flow analysis, and other variables such as that was what I was speaking to.
Q. Let's forget page 50. My question quite simply is that when a bond rating agency sets a bond rating, one of the things that they look at is the expected return of the company in the future, do they not?
A. In the sense they look at the regulatory climate for one thing, yes.
Q. So you have expected ROEs on both the left side and the right side of your equation, do you not?

A. I have a DCF-expected ROE on the left side. I have a bond rating, which will set a whole stream of variables, the primary one of which is the level of default risk of a firm, on the right side.
Q. And you have agreed with me that those bond rating agencies also look at expectational returns of the company; is that correct?
A. They look at regulatory climate, they look at measures of cash flow and quality of earnings.
Q. Are the variables on the right side of the equation supposed to be independent from the variables on the left side of the equation?
A. Generally, yes.
Q. And if that isn't true, there's error introduced into the model; is that correct?
A. Yes, as well as related to each other, but a T test tests for collinearity, insures that I didn't measure the same thing with more than one variable.
Q. Look at page 52, line 20, if we can, or actually line 11. That's where you go through your intuitive analysis as to whether the toll variable makes sense or not; is that correct?
A. That's where I apply my theoretical reasoning behind why that inclusion would make sense.
Q. Can you tell me whether toll competition

has increased, decreased or stayed the same in the last five years in Washington state?

A. I believe it has increased slightly.

Q. Now, down on line 22 on page 52, you say, "Higher amounts of risky toll revenue would tend to increase perception of risk and result in a higher cost of capital." Is that correct?

A. Yes.

Q. Intuitively, Ms. Folsom, if you lose toll to competition and you lose market share, your variable means that the more toll you lose the less risky the company is; is that correct?

A. No. What my variable says is that the more toll revenue you have the more risky -- it would tend to increase the perception of investor risk as a percentage of all the revenues that your company receives.

Q. And if I were to go out in time and had lost -- pick a number -- 30 percent market share and associated revenue with it, this variable would produce a lower risk to me; is that correct?

A. That assumes everything else staying exactly constant? All your other revenues would stay the same, is that what you're saying?

Q. No. What I'm saying is that if I lost revenue due to toll competition, your variable, because I have a lower amount of toll, would indicate that I'm less risky. True or false?

A. And what I said was all other things being equal and that you had had other changes, which I can't measure, yes.

Q. And intuitively that makes absolutely no sense, does it? If I have lost toll due to competition that makes me a riskier company, would you not agree?

A. No.

Q. Let's take a look at -- what was the amount of toll revenue that you used in your testimony?

A. For GTE Northwest?

Q. Yes.

A. I used the reported amount in GTE Northwest's annual report for year end 1993.

Q. Where does that appear in your testimony? I bailed myself out. Let's go to page 54, line 9.

A. On page 54.

Q. You used 14.4 million; is that correct?

A. Yes.

Q. Now, that is the toll number for GTE Northwest's consolidated operations; is that correct?

A. I believe so.

Q. So that would include Oregon, Idaho, Montana; is that correct?

A. Yes, if in fact on a consolidated basis, yes, it would.

Q. And would I be correct in my understanding that that number contains zero toll for Washington state?

A. I don't know.

Q. Do you know when GTE Northwest became a toll provider in this state?

A. I believe that that went into effect at year end 1993.

Q. Would you accept July 1, 1994 subject to check?

A. Yes.

MR. TROTTER: Excuse me. Is the question that that's when they actually started carrying toll or were authorized to?

MR. PARKER: When we were authorized.

MR. TROTTER: Is that in GTE's territory or you said state?

MR. PARKER: In GTE's service territory.

Q. So this 14.4 million that you've included in your testimony is not representative of GTE Northwest's operations; is that correct?

A. No. I think it is representative of GTE Northwest's operations.

Q. Well, if GTE Northwest had no toll revenue in 1993, but has a significant amount of toll revenue in 1994, your testimony does not pick that fact up; is that correct?

A. My testimony picks up what was reported at year end 1993; and for that matter, if you look at schedule 13, the amount that operating revenue from toll contributes to the overall equation is very small; but I thought it was important to leave it in there, because it did indicate that investors are relying on it in some way, albeit maybe a small way, as an indicator of or an explanatory indicator of risk.

Q. And my question to you, Ms. Folsom, is if that small toll revenue number was much larger, say 50, 60, 80 million dollars because we became a toll provider in 1994, your toll component is not indicative of the company's operations as we sit here in this hearing room today; is that correct?

A. In your hypothetical example? If the number was different than 14.4 million then the number in schedule 13 would change by whatever that difference is. Similar to how the bond rating changed because of a change in the bond rating.

Q. Let's take a look at schedule 12 of your Exhibit 6 if we could. Are you there?

A. Yes.

Q. Now, staying at the top part of schedule 12, when it says count ten, that means observations or data points; is that correct?

A. Yes.

Q. And could you tell me why it says number missing, one? Could you tell me about that, please.

A. That would be AllTel, and the reason why it's not included is because Standard and Poor's doesn't report operating revenue for AllTel.

Q. And that goes back to your testimony earlier that one of the criteria is that there had to be data available; is that correct?

A. Yes.

Q. Now, based on your data points and your variables, could you tell me how many degrees of freedom you have?

A. That would be -- if you look at the next table where it has the DF.

Q. The answer is 5, that's correct?

A. The total is 9.

Q. Degrees of freedom is 9?

A. There's 5 degrees of freedom, excuse me.

Q. And your model has five explanatory variables. You have four independent variables and then the intercept point; is that correct?

A. Yes.

Q. So you have only five more data points than you have explanatory variables; is that correct?

A. Yes.

Q. Am I correct in my understanding that the more degrees of freedom that you have, the more efficient the model is?

A. Could you define what you mean by efficient in that sense?

Q. Accurate.

A. I wouldn't use that as a measure of accuracy.

Q. How would you define efficiency?

A. In my mind the efficiency is -- would be whether or not the equation explains what it's supposed to explain and is theoretically sound and has the statistical tests that I've indicated that indicate good results.

Q. For another definition is that the standard of error will be small?

A. Didn't hear you.

Q. Standard of error will be small?
A. That may be one definition. It's not the one that I use.
Q. Based on your experience, do you find it rare to run a model with only five degrees of freedom?
A. I think you could have any size model. I don't know that it's -- I don't find that it's rare or not rare. It's just what it was.
Q. Now, going back to Exhibit No. 8 --
A. Schedule 8.
Q. Exhibit 8. Would you tell me the statistical reasons why you eliminated some of these variables?
A. The combination of variables that didn't provide -- a couple of reasons. One, if the combination of variables didn't explain more; and secondly, if the sine of the coefficient didn't make sense and theoretically it didn't make sense.
Q. When you used the term explained more, you're talking about R squared and T values?
A. And F value.
Q. And what specific criteria did you put on the R, the T and the F?
A. Generally a 95 percent confidence level.
Q. And that's on the R value?

A. You asked me about the T and the F.

Q. Are you familiar with arbitrage pricing theory as proposed by Steven A. Ross and Richard Role?

A. To the extent that I may have read the article produced by them.

Q. And is it your understanding that those authors state that the expected returns on securities are based on four factors as follows: Unanticipated changes in inflation, unanticipated changes in industrial production, unanticipated changes in the dividend -- I'm sorry -- unanticipated changes in the yield differential between low and high grade bonds and unanticipated changes in the yield differential between long-term and short-term bonds?

A. Those may be the factors they suggested. Subject to check I will agree.

Q. In your opinion, do those factors have an impact on investors' expectations?

A. They may. They're part of the same general information that's reflected in all market prices. If we believe markets are efficient, then they're reflecting a whole stream of risk variables.

Q. And the four items that I gave you, those were not variables that were included in your regression analysis; is that correct?

A. They weren't explicitly included. I think some of the variables include at least a portion of those.

Q. Now, in response to a discovery request, you provided the company with a June 1992 article by Eugene F. Fama and Kenneth R. French; is that correct?

A. Yes.

Q. And are they authorities in the field?

A. I would consider them so, yes.

Q. Are you familiar with their larger body of research which includes the development of a five-factor model of determining expected stock return?

A. Not to any great extent, no.

Q. Do you believe that the size factor, which is the difference in the equity market returns between small and large companies, would have an effect on expected stock returns?

A. Could you repeat that, please.

Q. Do you believe that the difference in market equity returns between small and large companies would have an effect on expected stock returns?

A. Size could have effect, but I think that the regression that I did, that was one of the things that I looked at were various differences in size, and this model, it indicates that that wasn't one of the variables that contributed to more explanation.

Q. So size did not make your final four independent factors; is that correct?

A. How are you defining size there?

Q. You just said that it didn't make it. I mean, you tell me how size is computed for on your Exhibit No. 8.

A. There's measures of size in terms of revenues, differences in size of equity ratio. Depends on how you define it.

Q. So contrary to Fama and French who said size has an impact, your model doesn't pick up that specific variable; is that correct?

MR. TROTTER: Object to the question. The question regarding size per Fama and French by counsel did not identify what they meant by size; therefore we don't know or can't make the comparison without that.

MR. PARKER: Size is the difference between equity market returns between small and large companies.

MR. TROTTER: My question, though, is what is a small company and what is the large company?

JUDGE ANDERL: Can you further clarify that, Mr. Parker? I think we are talking about some subjective things here that haven't been defined.

MR. PARKER: No, I cannot, Your Honor.

JUDGE ANDERL: Then the objection will be sustained.

MR. PARKER: Apparently I can. Size is defined by market value -- well, let's go on.

Q. Let me turn your attention to your three-stage DCF model if I could.

A. Could you give me a cite.

Q. This is just a generic for a moment. In response to a company data request which stated or requested, "provide all work papers which were produced and/or relied upon in Ms. Folsom's application of the three-stage DCF model. Include any and all studies, such as empirical and academic and regulatory research which support the use of a multi-stage DCF model in regulatory ratemaking." You didn't provide any such precedent; is that correct?

A. That would be a data response 15?

Q. Yes.

A. I provided the work papers.

Q. And those are your specific work papers; is that correct?

A. Yes.

Q. There was not any empirical, academic or regulatory research done by others in that response; is that correct?

A. The work papers I provided were mine, yes.

Q. Do you know how many commissions utilize multi-stage DCF model in establishing allowed common equity return rates for regulating utilities?

A. I believe I also -- that was a data response as well. And I indicated I was aware of one Commission that has allowed it that I was actually aware of that had allowed testimony on multi-stage DCF model. There may be others but that was one that I was particularly aware of.

Q. And what state was that?

A. I believe it was Illinois, but if you give me a minute here, I can find the data response. Yes it was Illinois Commerce Commission.

Q. And am I correct in my understanding that you are not aware of any other state commission that uses your regression analysis; is that correct?

A. I'm aware that commissions have accepted regression analysis in several different ways in testimony. For that matter, beta is a function of a regressional analysis and every time it's admitted

it's utilizing regression.
     Q.   Let me ask it this way. Are you aware of any state regulatory commission orders where the authorized rate of return on common equity was determined in whole or in part using a regression analysis approach?
     A.   And I believe I indicated that in this case as well as others the DCF is what indicates the overall cost of equity. Regression is a more sophisticated way of explaining the differences in the variance between all of those comparable groups' indicated cost of equity rather than just simply taking an average which no single company is going to look exactly like nor is GTE Northwest.
     Q.   In your response to company data request 18 the last sentence is, "Ms. Folsom is not aware of state commissions utilizing regression analysis or not." Was that your response?
     A.   Yes, that's the response.
     Q.   Now, in your DCF analysis you assumed an initial intermediate and long-term sustainable growth rate; is that correct?
     A.   I assumed an initial growth rate and a long-term growth rate and then a certain number of years to transition between the initial and the

long-term.

Q. Now, if I could turn your attention to page 21 through 22 of your direct testimony, please.

A. I missed that last --

Q. Page 21. Am I correct in my understanding that you have rejected the use of double leverage in this case; is that right?

A. What I've indicated is that in my analysis and investigation of the ratios of GTE Northwest in this case I chose not to use double leverage.

Q. Nor are you proposing it in this case; is that correct?

A. I'm not proposing it in this case.

Q. And is the basis for your rejection of that set forth on page 22, lines 7 through 13, where you state, "I believe that a utility's cost of equity is not necessarily linked to its shareholders' sources or costs of funds, nor to its shareholders identities. The required equity return on an investment is based upon the risks to which the capital is exposed and the use to which that capital is put."

A. I have stated general principles to adhere to. This might not be true in all cases, but in this case it wasn't necessary and in my regression GTE Northwest's capital structure was within the bounds for the industry. But again, these are general principles.

Q. I turn your attention to page 33, please. Now, as I understand your testimony, you have used the earnings growth rates as a proxy for growth in your DCF analysis; is that correct?

A. The IBES analysts' projected growth rate in earnings.

Q. That's the five-year growth rate projection; is that correct?

A. Yes.

Q. Is the use of a five-year -- let me rephrase that. The intermediate stage growth, which you called a transition, I believe, results from a linear transition from the five-year IBES growth projection to the long run growth rate in later years; is that correct?

A. It's a function of the number of years, yes, that you choose to transition from one to the other.

Q. Is the five-year transition judgment on your part?

A. Yes.

Q. Do you know how often the IBES earnings projections are published?

A. I believe that the updates occur quarterly.

Q. Would you accept subject to check they are published monthly?

A. They're published, but I was talking about when analysts actually make their forecasts.

Q. And when those forecasts come out quarterly, the five-year growth rate changes; is that correct?

A. It might.

Q. In IBES, it's common that those growth rates change as they come out on a quarterly basis?

A. They could change. It depends on whether or not anyone -- any of the analysts that underlie that had a revision in their forecast.

Q. Now, if I could direct your attention to page 41 of your testimony. And on page 41 you discuss your final stage growth rate that is equivalent to the nominal long run growth rate in the economy which is 6.4 percent; is that correct?

A. Yes. That's what I stated.

Q. Now, am I correct in my understanding, Ms. Folsom, that you believe that the return on equity which is to come out of this case will only be in effect for three years or less?

A. I believe that in setting a return on equity that may be the time frame that that return will be in effect.

Q. Well, could I turn --

A. But to actually set a rate it's based on in the DCF model a prospective sustainable growth rate.

Q. Could I turn your attention to page 19, line 18, please. You state there, "I have used a three-year historical average as the basis for my recommendation in order to mirror the one- to three-year period during which the decision in this case may be expected to remain in effect."

A. Yes. And that's what I said. It may be expected.

Q. Now, am I correct in my understanding of your testimony that you have assumed that no local exchange carrier can have a long run growth rate which exceeds the long run growth rate in the economy?

A. What I've stated starting at page 36 and carrying over -- at line 11 and carrying over to page 37 is that the simple DCF model requires an infinitely sustainable growth rate, and some of the growth forecasts are substantially higher than that and it would be unrealistic to expect those growth rates to remain in effect for -- in the very long run because

of the reasons I stated, that eventually that company or that industry would become the entire U.S. economy which would then proceed to grow at whatever growth rate that company was forecasted to grow at. So this is one of the checks that I applied in my model is whether or not my estimate of G made sense, and in contrast to Mr. Hanley, who didn't choose to make any adjustment, this appeared to be very -- an appropriate adjustment for me to make to make a stronger model.
Q. So your testimony stands for the proposition that no local exchange carrier can have a long run growth rate which exceeds the long run growth rate in the United States economy; is that right?
A. My statements, as I've stated, again, is that DCF requires an infinitely sustainable growth rate, and a sustainable growth rate that is higher than that of the entire U.S. economy won't happen because eventually the company would be the economy.
Q. Well, let me ask you this. If you believe that the return which is set in this proceeding will be re-examined or adjusted within three years, shouldn't the analyst forecasts of growth which are five-year projections be the relevant growth that should be used in this case?
A. First of all, that's just -- the one to

three years is just based on my experience and it was an estimate of how long decisions typically have been in effect. It may be longer, it may be shorter. To use DCF, I think the DCF model is appropriate to use in this case and it calls for a sustainable growth rate, and I've made the adjustments that I've previously stated.

Q. Even if we change this return in three years, you don't think that sustainable growth rate should be the five-year projection?

A. No.

Q. Now, one of the factors that you used in your regression analysis was beta; is that correct?

A. Yes.

Q. And you used the beta of GTE Corporation; is that correct?

A. Yes, I did.

Q. And was that judgment on your part?

A. Yes, it was. Since GTE NW didn't have publicly traded stock there isn't a published beta. In my mind GTE Corporation's beta was a reasonable surrogate because I believe that an investment in GTE NW is probably no more likely risky than an investment in GTE Corp, and one of the ways you can see this is the difference in bond rating with GTE Corporation being a triple B plus and GTE NW being an A minus. Another thing is that my -- I performed a DCF analysis on GTE Corporation and got a result of 13.4 percent indicating that an investment in GTE Corp required a higher return.

Q. Are all the betas that you used in your regression analysis with Standard and Poor?

A. Yes.

Q. And is the way that you obtain a beta from Standard and Poor is to subscribe to their PC Plus service?

A. I subscribed to part of their Compustat service, yes.

Q. Do you know how many subscribers there are to PC Plus?

A. No.

Q. Do you know what it costs to subscribe to PC Plus?

A. No.

Q. Do you know how Standard and Poor's calculates its betas?

A. By that do you mean the equation, the exact equation?

Q. Well, do they calculate their betas similar to Value Line's which is over 16 months?

A. Similar to Value Line but this is an unadjusted beta.

JUDGE ANDERL: Mr. Parker, I think it might be a good time to take a lunch break while we're in the midst of the beta here and come back to that at 1:30.

(Lunch recess.)

AFTERNOON SESSION

1:30 p.m.

JUDGE ANDERL: Let's be back on record, please, after our lunch recess. Mr. Parker, you have further questions for Ms. Folsom.

MR. PARKER: Just a few.

Q. Ms. Folsom, would you agree with this definition of simultaneous equation bias? It is when variables on the right-hand side of the regression equation can be expressed as being dependent on the left-hand side variables or the independent variable -- dependent variable?

A. Can you read that --

Q. "Simultaneous equation bias is when the variables on the right-hand side of the equation can be expressed as being dependent on the left-hand side variables"?

A. Yes, I would agree that's a definition.

Q. And if that were to occur, if one were to have simultaneous equation bias, then the parameter estimates would be biased; is that correct?

A. That's a potential outcome, yes.

Q. And if you have biased coefficient estimates, that would mean that the model's predictions would be inaccurate; is that correct?

A. That's a lot of if's. If you had bias predictions you wanted to define what you mean.

Q. Only one F. If one has simultaneous equation bias, then the model's predictions are going to be inaccurate?

A. Then there may be some effect on the model's prediction.

Q. Are you familiar with the term "data mining"?

A. To the extent that I believe Mr. Hanley referred to it and in his rebuttal testimony.

Q. Are you familiar with this book, Ms. Folsom, Using Econometrics, A Practical Guide by A. H. Studenmund?

A. I've seen the book. I've looked at it very briefly as a result of reading what Mr. Hanley said in his rebuttal testimony, but I have in no way reviewed the entire book.

Q. Let me read you two sentences out of the book and see if you agree or disagree with it. The title of the section is Data Mining and "It is almost assuredly the worst way to choose a specification is to simultaneously try a whole series of possible regression formulations and then choose the equation that conforms the most to what the researcher wants the results to look like. In such a situation the researcher would estimate virtually every possible combination of the various equations and the choice between them would be made on the basis of the results." Do you agree that that's a definition of data mining?

A. This text says that it is. This text also gives quite a lengthy discourse about how to run a regression very similar to what I did start with theory.

Q. But my question is, do you agree or disagree with that definition of data mining?

A. To the extent that it's defined that way here, and the only time I've ever seen that phrase was in Mr. Hanley's testimony, and it's in this book, I agree that's what it says.

MR. PARKER: I have nothing further. Thank you.

JUDGE ANDERL: I don't have Exhibit 8 as admitted yet, so I guess I will ask if there's any objection to that, mr. Smith, response to data request No. 20?

MR. SMITH: No objection.

JUDGE ANDERL: Mr. Trotter?

MR. TROTTER: No.

JUDGE ANDERL: Exhibit 8 will be admitted.
(Admitted Exhibit 8.)
JUDGE ANDERL: Mr. Trotter, do you have questions.
MR. TROTTER: Just a couple.

CROSS-EXAMINATION

MR. TROTTER:
Q. Could you turn to page 49 of your testimony. On line 5, you show the coefficient of your formula that relates to the bond rating of .143?
A. Yes, I did.
Q. And the way you did your analysis, does that imply a 14.3 basis point cost difference between bond rating?
A. If you hold everything else constant and just run the mathematics, a tick in the bond rating either up or down results in that much of a change, yes.
Q. Are you familiar with the current differentials between bond ratings, currently?
A. In terms of a percentage or a --
Q. Yeah.
A. Similar to that, yes.
Q. And is that spread representative of

today's conditions or not?
A. I believe that it is.
Q. With respect to short-term debt, you're proposing to use a capital structure of some 7.16 percent?
A. Yes, I am.
Q. Is short-term debt high priced today or relatively low priced today compare to prior periods?
MR. PARKER: At this point, Your Honor, I would like to enter an objection as to friendly cross. I believe there's a recommendation draft to this Commission that prohibits friendly cross and that's exactly what this is.
JUDGE ANDERL: I'm not sure prohibits as much as limits.
MR. PARKER: Limits.
JUDGE ANDERL: Mr. Trotter.
MR. TROTTER: I will ask it another way.
Q. Is a short-term debt ratio in that range appropriate for rate making purposes, in your opinion?
A. Yes.
Q. Is that apart from or is that just because of your three-year average analysis or are there any additional reasons?
MR. PARKER: Same objection, Your Honor.

This is friendly cross.

MR. TROTTER: Just the basis for the prior answer.

JUDGE ANDERL: Overruled.

A. No. It's in part based on the -- my average, but it's also based on past Commission practice and orders which have long considered short-term debt component as it is the lowest cost associated in the capital structure.

MR. TROTTER: Nothing further. Thank you.

JUDGE ANDERL: Commissioner Hemstad, do you have any questions for this witness.

EXAMINATION

BY COMMISSIONER HEMSTAD:

Q. The only model that you applied was the discounted cash flow analysis and you didn't use either risk premium or CAPM. Any reason for, or let me phrase it, why did you use only the one?

A. I think for the purposes of this testimony the DCF more than meets financial theory tests. It's a robust model. It's passed Commission practice, and the other thing is that the model itself I think is very theoretically sound. I applied several checks both in the development of the model as well as after

-- upon obtaining the results that range from intuitively if you agree that equity is higher than debt in terms of costs then you would expect to get an equity rate that was higher than the current 7 percent debt costs. I also used a check that I did a DCF on GTE Corp and I believe I stated earlier that I think that GTE Northwest is no more risky than GTE Corporation, so I would expect to see a higher equity number for GTE Corp. And then third, I looked at my results in relation to current Commission orders and they were in line with where rates were, so with the checks that I applied in developing the model and then after the model I think that DCF is more than adequate.

Q. Do you have any view about how the models -- do you consider them actually misleading or just redundant?

A. No. I think that you could use other models and obtain reasonable results. I think I've raised red flags about some of the potential problems in using some of the other models, but I still think you could apply them and get reasonable results.

Q. You used a capital structure that was based on the company's actuals with certain adjustments. Public counsel I see uses a hypothetical capital structure approach. Do you have any comment on that as to which is preferable?

A. Obviously, we use different approaches in obtaining our results. It's my belief that I've stated in my testimony that the capital structure that I used provides a balance of safety and economy. Mr. hill may have used a different number or a different approach.

Q. But you can approach it from either direction possibly and end up approximately --

A. There is always a possibility.

Q. -- approximately the same results?

A. Yes.

Q. How did you decide what level of short-term debt should be injected into their capital arrangement?

A. Within my testimony at page 19 I started an explanation of that, but just to summarize, when I examined their historical monthly debt averages, short-term debt averages, it was my belief that a 37-month period was long enough to reflect those times when they would take out permanent financing to replace the short-term and that's what I attempted to do.

Q. And it's your assumption or conclusion that

historical pattern would be contingent into the
future?

A. I would expect that a prudent company would continue to use their lowest cost of financing and short-term right now has and is the cheapest, so I would certainly expect comparable kinds of balances into the future.

Q. Does that require a comfortable prediction about the direction of the future interest rates?

A. I would expect that if all other things being equal that long-term -- for example, if short-term rates rose, it wouldn't have to happen, but it would be likely that long-term rates were also rising, so the whole market is shifting. So, yeah, I would still expect that they would continue to use short-term debt as a low cost source of financing for construction work in capital and other financing needs, and they provided us a balance showing the past 56 months that indicates that that's what they have done for a five-year period.

Q. Through much of that period rates are falling, I suppose I can made that broad generalization. Company is projecting that interest rates will be rising. Wouldn't that be shifting more into longer term debt?

A. I believe if you get back further than the three years rates were actually a little higher so then they were high and then they were down and now they're up a little again. In fact, back in 1990, the cost rates were in the 8 percent range. They were significantly higher and they still had significant short-term debt balances. It's a normal way of doing business.

Q. Carried to its extreme, if one thought interest rates would continue to fall one would have a, I suppose, a very heavy short-term debt?

A. Excepting that I think there's probably mortgage covenants that may prevent above a certain percentage or a certain dollar level.

COMMISSIONER HEMSTAD: That's all I have.

JUDGE ANDERL: Anything on redirect?

MR. SMITH: Just a few questions.

REDIRECT EXAMINATION

BY MR. SMITH:

Q. Ms. Folsom, you were asked some questions regarding the state of competition in the state of Washington, and in particular you were asked whether you were aware of four switched access providers in the state. Do you recall that question?

A. Yes, I do.
Q. And do you know what the market share is of those four switched access providers?
A. It's my understanding that the market share is very small. It's a matter of public record before this Commission.
Q. You were also asked in regard to short-term debt whether the Commission has ever used 37-month averages for short-term debt. Do you recall that?
A. Yes, I do.
Q. If you were to use a 13-month average for your short-term debt component, have you calculated what that would be?
A. It would be approximately $129 million, which is about the same but slightly higher than the average I proposed.
Q. One final question. Would it be appropriate to base your DCF analysis on only three years of earnings growth or dividend growth?
A. Only if you believe that three years growth rate could be infinitely sustainable. Otherwise, you're violating a major assumption of the DCF model that calls for an estimate of G that is an infinitely sustainable growth rate.
MR. SMITH: That's all I have.

JUDGE ANDERL: Anything further on cross? Mr. Parker.

MR. PARKER: Few questions.

CROSS-EXAMINATION

BY MR. PARKER:

Q. Ms. Folsom, in response to some questions from the bench, I believe you answered that whether you use Mr. Hill's capital structure or your capital structure you get the same result. Did I hear that correctly?

A. No. I believe I said that we used very different approaches and my approach -- and then I defined what my approach was. I didn't characterize that we got the same result.

Q. So if this Commission was picking between Mr. Hill's capital structure and your capital structure it would give significant differences in terms of interest coverages, cost of the overall cost of capital and things of that manner; is that correct?

A. There would be differences, that's correct. There is differences.

Q. And I take it you are here today advocating your capital structure to be adopted by this Commission; is that correct?

A. I have presented a recommendation of what I consider to be a reasonable capital structure as adjusted for short-term debt.

Q. Now, the purpose of setting the return in this case is to set a prospective return for the next three years or so; is that correct?

A. The purpose is to set a prospective return -- the purpose is to set a prospective return.

Q. So the market share of the four switched access providers in Washington, the appropriate analysis is where they might be three years from now or two years from now not where they are today in 1994; is that correct?

A. No. That's one of the competitive pressures that GTE is facing right now and will face into the future. The critical thing is that GTE Northwest nor any of the other companies are standing still and facing this competition. Prime example is the merger of GTE with ConTel that gained economies of scale, more access lines, the various merger activity that you see going on today, so it was just an indicator of what the general state of telecommunications industry was.

Q. Do you expect these four switched access providers to gain market share in the next three years?

A. When you're starting out at nothing or almost nothing, then anything is a gain.

MR. PARKER: I have nothing further.

JUDGE ANDERL: Any other questions for this witness?

Thank you, Ms. Folsom, for your testimony. You may step down. Mr. Smith.

MR. SMITH: That completes the staff's direct case.

JUDGE ANDERL: Mr. Trotter.

MR. TROTTER: Yes, we would call Steven G. Hill.

JUDGE ANDERL: Let's go off the record for a moment while Mr. Hill takes the stand.

(Recess.)

(Marked Exhibits T-9 and 10 through 15.

JUDGE ANDERL: Let's be on the record. While we were off the record Mr. Hill took the stand and we identified his prefiled testimony and exhibits as follows: His SGH-1, which is his testimony, Exhibit T-9 and Exhibits SGH-2 through 7 are identified as Exhibit 10 through 15.

Whereupon,

STEVEN HILL,

having been first duly sworn, was called as a witness herein and was examined and testified as follows:

DIRECT EXAMINATION

BY MR. TROTTER:

Q. Would you please state your name and give us your business address.

A. My name is Steven G. Hill, H I L L. My business address is P.O. Box 587, 3000 Benedict Road, Hurricane, West Virginia, 25526.

Q. What is your occupation?

A. I'm a financial analyst.

Q. And have you been retained by the public counsel section of the attorney general's office to give testimony in this proceeding?

A. Yes, I have.

Q. And in the course of that, your duties in that assignment, did you have cause to prepare testimony and exhibits?

A. Yes, I did.

Q. Directing your attention to Exhibit T-9, is that your direct testimony?

A. Yes, it is.

Q. If I asked you the questions that appear there, would you give the answers that appear there?

A. Yes, I would.
Q. And in the course of that testimony you refer to various exhibits which you sponsored which have been marked now for identification as Exhibits 10 through 15; is that right?
A. That's correct.
Q. And are those -- were those exhibits prepared by you?
A. Yes, they were prepared by me.
Q. Are they true and correct to the best of your knowledge?
A. Yes, they are.
MR. TROTTER: Move for the admission of Exhibits T-9 and Exhibits 10 through 15.
JUDGE ANDERL: Mr. Parker, any objection?
MR. PARKER: No objection, Your Honor.
JUDGE ANDERL: Mr. Smith?
MR. SMITH: No objection.
JUDGE ANDERL: Those exhibits will be admitted as identified.
(Admitted Exhibits T-9 and 10 through 15.)
MR. TROTTER: Witness is available.

CROSS-EXAMINATION
BY MR. PARKER:

Q. Good afternoon, Mr. Hill.
A. Good afternoon, Mr. Parker.
Q. Would you agree with me that currently 30-year treasury bonds are yielding 7.8?
A. 7.78, something in that nature, yes.
Q. Now, you graduated from Tulane in 1973, graduate degree; is that correct?
A. Yes.
Q. And then did you go directly back to West Virginia and go to work for state government?
A. Well, small correction. I didn't go back to West Virginia. I'm not from there. I moved to West Virginia and worked for the Air Pollution Control Commission for a couple of years, yes.
Q. Could you tell me when you went to work for the West Virginia consumer advocate division?
A. 1981.
Q. Is Billy Jack still doing okay?
A. He's doing fine.
Q. Now, I take it that you're self-employed as a consultant?
A. That is correct.
Q. Have you ever been employed by a corporation in a finance position?
A. No, sir, I have not.

Q. Have you ever been retained by a corporation to give advice as to the purchase or sale of securities?

MR. TROTTER: Your Honor, I will object to this line of questioning. The company had no objection to this witness's testimony and exhibits. I believe they waived any challenge to his qualifications.

MR. PARKER: I'm just testing the knowledge of the witness and what his work experience is. I don't think it goes to admissibility.

JUDGE ANDERL: I think these are legitimate questions, Mr. Trotter. I will allow them.

A. Is there a question pending?

Q. I can't remember. Have you ever been retained by a corporation to give advice as to the purchase or sale of securities?

A. No, sir. I'm a cost of capital expert.

Q. Now, you would agree with me that the establishment of return on equity is prospective in nature; is that correct?

A. Yes. The costs of equity capital is based on something that's in the future. We use many different methods to get at that expectation. We use both historical and projected information.

Q. And would you agree with me that the establishment of a return on equity is somewhat subjective and requires the exercise of judgment?

A. No doubt about it. Said that many times.

Q. Now, you recognize Eugene Brigham as an authority in the field, do you not?

A. Eugene Brigham is an author of textbooks and his work is often quoted. I disagree with him on some issues and -- he also, I should note, professor Brigham also testifies for utility companies and I've been known to disagree with him on some occasions.

Q. Let's see if you agree or disagree with this one, and I will come up with you so you can read it with me. Gene Brigham has stated, "In practical work it is often best to use all three methods, capital M, bond yield plus risk premium, and DCF, and then apply judgments when the methods produce different results. People experienced in estimating capital costs recognize that both careful analysis and some very fine judgments are required. It would be nice to pretend that these judgments are unnecessary and to specify an easy, precise way of determining the exact costs of equity capital. Unfortunately, this is not possible."

Do you agree with that or disagree with

that statement?
A. In general I agree with it. I think that his listing of risk premium and CAPM is kind of duplicative. Risk premium and CAPM are both risk premium models. CAPM is a little bit more sophisticated than the risk premium and I have less difficulty using the CAPM, which I do use, than I do the risk premium, but as a general statement I think there's no doubt that this is basically an exercise in judgment.
Q. And do you recognize Professor Stewart Myers as an authority in the field?
A. I'm less familiar with Professor Myer's work. I realize he also is an author of financial text.
Q. Let me read you one of his statements and see if you agree or disagree. Use more than one model when you can. Because estimating the opportunity costs of capital is difficult, only a fool throws away useful information. That means you should not use any one model or measure mechanically and exclusively. Beta is helpful as one tool in a kit, to be used in parallel with DCF models or other techniques for interpreting capital market data." Do you agree or disagree with that statement?

A. Well, again generally I agree. I have used more than one model to estimate the cost of capital; I have used four. I disagree with his confidence in beta. I think lately that's been shown to be less than accurate measure of relative risk, but generally I would agree with what he says. Now, for the record, I would note that counsel is quoting from a book by Dr. Roger Morin and not books by either one of the authors that he read.

Q. You have no problem with the quotes out of that book, do you, sir?

A. No. I believe I expressed that I accept those statements in a general fashion.

Q. Now, as I understand your testimony, you've recommended a hypothetical capital structure which includes 50 percent equity capital; is that correct?

A. Yes. I believe that that represents a reasonable ratemaking capital structure. It's financially sound and represents a lower cost capital structure than that which the company recommends.

Q. Am I correct in my understanding that your recommendation regarding this capital structure is it be used for ratemaking purposes only?

A. Well, that's what we're here for. We're here to set the cost of capital or to investigate the

cost of capital and that's the purpose of this hearing.
     Q.   You're not advocating that GTE go out in the real world and adjust their capital structure to meet your recommendation, are you?
     A.   No, sir. I believe that the company can be more cost effectively capitalized, however.
     Q.   You rely on a proxy group of seven RBOCS as a proxy for the northwest company in arriving at your equity estimate; is that correct?
     A.   Not exactly, no, sir. I believe that the cost of equity capital of the regional Bell holding companies, although they are the most similar of the communications companies to local exchange companies because roughly 82 percent of their operations are local exchange operations, their cost of equity is going to be most similar to the telecommunications companies, but because those companies are beginning to engage in more and more unregulated operations their cost of capital is moved away from a pure play, quote-unquote, cost of capital to a local exchange company. So the problem I'm having with your statement is that they are equal. They are not equal. The cost of capital that's appropriate for local exchange company is below that

appropriate for the Bell regional holding companies.

Q. My question was are the regional Bell holding companies your proxy group that you used in your testimony and the answer is no?

A. No. The answer to that is yes, but I don't recall that was exactly your statement.

Q. Would you accept subject to check that the average bond rating for the seven regional Bell holding companies is double A?

A. Yes, I accept that.

Q. Would you accept that the northwest company's bond rating is A plus by Standard and Poor's having been downgraded from AA minus?

A. That's correct.

Q. Do you think that the bond rating process takes into account current prospective business and financial risks?

A. Yes, it does. I think the bond ratings -- let me have a caveat before I get into this. The bond ratings are not a be-all and end-all of risk. They are an indicator like anything else, and Standard and Poor's, Moody's, Duff & Phelps, all the major bond rating agencies, will all have that caveat in the front of their recommendations. These are a guide to investing. So bond ratings are not the be-all and end-all of risk. They do take into account in a basic sort of way business risk.

Q. And you think that the maintenance of bond ratings is important; is that correct?

A. Yes, generally that's true. Once again, it's not determinative of what regulators should do but it is a factor we should consider.

Q. And you agree with the policies set forth in the Hope and Bluefield cases; is that correct?

A. That is correct.

MR. PARKER: Your Honor, like an exhibit marked. It's entitled GTE Northwest, Incorporated. It is our response to data request submitted by the public counsel, in particular data request No. 9.

JUDGE ANDERL: Next exhibit in line is No. 16. That's your response to public counsel's request No. 9?

MR. PARKER: Yes.

(Marked Exhibit 16.)

Q. Do you have before you Exhibit No. 16, Mr. Hill?

A. Yes, I do.

Q. And I take it you wrote this question or this data request?

A. Yes, I did.

Q. And you have reviewed the response that was appended thereto?

A. Yes, I have.

Q. Could I turn you to five pages back from the front of the document where it is a Moody's document dated March 31st, 1994. At the top it has a name Richard W. Stephan, S T E P H A N.

MR. TROTTER: Where is the date on that? I'm sorry.

A. March 31st, I see it.

Q. Now, on March 31st, 1994, did Moody's Investors' Services say that it was downgrading GTE Northwest's senior secured ratings to A2 from AA3 because of the expectation that the company's revenues will be pressured by competitive forces which will continue the downward pressure on the company's tariff structure?

A. Yes.

Q. And the next sentence which follows is, "As a result the company's cash flows and earnings will likely remain below historic levels"?

A. Yes.

Q. Could I take you to the second page of Exhibit 16.

A. Second page of the whole total of the document we were just looking at?

Q. Yes, including the cover page. And do you see before you what is Standard and Poor's Credit Week down at the bottom of the page, April 5, 1994?

A. Yes, I do.

Q. In the middle of that page, more or less, is a portion of the document pertaining to GTE Northwest, Incorporated?

A. Yes.

Q. And does this document show that on April 25th, 1994 Standard and Poor's downgraded GTE Northwest senior secured debt from AA minus to A plus?

A. That is correct.

Q. And is the reason for doing that stated that GTE Northwest's downgrade reflects the erosion in financial measures of credit protection and the company's rising exposure to competitive pressure. In 1993 pre-tax interest coverage declined to 3.2 times, funds from operation coverage was 5.8 times, and the ratio of debt to capital was 42.5 percent at year end?

MR. TROTTER: Your Honor, I will object to the question. This document, number one, speaks for itself and contains three paragraphs not just one, so I guess I will object to a partial reading. The document speaks for itself. It also talks about cost control efforts and service improvements and other things and how those --

JUDGE ANDERL: Mr. Trotter, I think you could address that on redirect. As far as I understood it, so far the question was just do you agree that that's what it says.

MR. TROTTER: I think the question was that that was the reason for the downgrade.

JUDGE ANDERL: Well, let's let Mr. Parker clarify what his question was.

Q. Is that what this document said, Mr. Hill?

A. The quote that you just read is the first paragraph of a portion of that statement by Standard and Poor's. It does say that the bond rating now is stable and that the rate case -- this is not a rate case but this pending case in Washington will not have an impact on that rating.

Q. And the first paragraph there reflects the reason for the downgrade; is that correct? It says "downgrade reflects"?

A. It reflects these factors. There's a lot more that goes into the consideration of a bond rating than just a few ratios or factors.

Q. Likewise, is one of those considerations down at the bottom of that section where it says the company's rate structures and revenue mix place the company at a disadvantage in an operating environment that is becoming increasingly competitive?

A. Yes, that is a quote.

Q. So would you agree with me, Mr. Hill, that Standard and Poor's recognized that the ratio of debt to capital is 42.5 percent at year end 1993?

A. Yes.

Q. And even in light of that fact, GTE Northwest bonds got downgraded?

A. Well, I don't think that an equity ratio -- my problem with your statement is "in light of that fact," that means essentially to me despite that fact. It's not clear that if GTE Northwest's debt ratio had been 30 percent that the bonds would not have been downgraded.

Q. Let me try it this way. Factually there is 42.5 percent debt in the capital structure and a bond downgrade occurred.

A. That's a question?

Q. Yes. Is that correct?

A. That those are -- that's a factual representation of the numbers. I would point out that Standard and Poor's requirement for a single A telecommunications firm first debt ratio is 52 percent, which is higher than that which I recommend in this case.

Q. May I turn you to the seventh page of this document, please, and you will find a Duff & Phelps release dated March 23rd?

A. I have it.

Q. And does that release indicate that Duff & Phelps credit rating company lowered their rates on the northwest company's bonds from AA minus to A plus on March 23rd?

A. Yes.

Q. And in the second paragraph there does it state, "This action was taken as a result of disappointing expense control and maintenance of a higher proportion of debt in the capital structure than previously expected"?

A. Yes, it does say that.

Q. Now, if I could, Mr. Hill, could I turn your attention to page 21 of your direct testimony.

A. All right.

Q. And on page 21, down around lines 20 in there where it's indented you cite Standard and Poor's Credit Week of July 19, 1993; is that correct?

A. That's correct.

Q. And you also site Standard and Poor's on page 22 of your direct testimony; is that correct?

A. That's correct.

Q. Do you place reliance upon the significance of Standard and Poor's assessments and comments?

A. I present that as evidence that investors consider. I believe that information has an impact on what investors believe. Once again, I believe that the information from any one particular source is not necessarily determinative of investor opinion.

Q. Now, you performed an analysis of USTA companies and reached the conclusion that the industry can issue more debt as a result; is that correct?

A. Yes. I performed analysis of the independent telephone industry and my analysis shows that that industry could be more cost effectively financed than it is now.

Q. Do you know the bond returns of the individual 600 companies that are contained in the USTA group?

A. What do you mean by bond returns?

Q. Bond ratings.

A. No, sir, I don't.

Q. Do the individual firms contained in the USTA group, do they do their financing in response to their individual respective levels of business risk or in response to the average level of business risk in the industry?

A. I think they do their financing in response to their individual levels of business risk.

Q. Now, has the independent telephone industry been financed on average of 16 percent debt in the past three to five years?

A. No, sir, it has not.

Q. Would you accept subject to check that for the years 1987 through 1991 that the average debt ratios for the group are 44.3 percent, 39.6 percent, 39.6 percent, 38.3 percent and 37.6 percent?

A. Yes. I believe I gave those figures to you in a data response. That does not mean that those capitalizations that you refer to are cost effective.

Q. Do you know how many of the company within the 600 have bonds which are undated?

A. Quite a few. GTE dominates the independent telephone industry, as is reported by the United States Telephone Association. There are other independents that have bonds that are rated and there are lots of small mom-and-pop-type organizations in that aggregate.

Q. Now, a market-based cost rate for common

equity capital such as the DCF analysis reflects investors' expectations of the future; is that correct?
A. Hopefully, yes.
Q. And the DCF cost of equity model represents a long-term cost of equity, does it not?
A. Yes, it does.
Q. So the market prices being paid by investors reflect long-term expectations; is that correct?
A. That's correct.
Q. Do you think that Standard and Poor's is investor influencing in the sense that their comments make investors aware of present and future risks affecting local telephone service?
A. Yes. I believe I said as much just a moment ago. I think that there are investor publications that are influential; Value Line is among them, Standard and Poor's, Moody's, Wall Street Journal. There are many, and while we look to one or another of those for a particular comment we have to keep in mind that there are many sources of information, and as the quote from Mr. Myers says, only a fool would limit his source of information when predicting your cast of capital.

Q. Am I correct in my understanding that Standard and Poor's bond rating in GTE Corp's senior long-term debt is triple B plus?

A. Say it again.

Q. Standard and Poor's bond rating for GTE Corp's senior securities is triple B plus?

A. Correct.

Q. Am I further correct in my understanding is that Standard and Poor's does not form financial ratio guidelines for industrial companies in order to maintain a given bond rating?

A. That's what Mr. Hanley says. I recall having seen financial ratio guidelines for industrial companies. After reading his testimony I could not put my hands on same in my office. What I may have seen is an average of existing debt ratios and that sort of thing for companies with a certain bond rating. So I can't say absolutely that that's not the case.

Q. Let me see if I understand your statement. Your statement is that you couldn't find anything but your recollection is that you might have seen reporting of similarly situated companies as to what their actual results are?

A. Yes.

Q. Do you know the level of total debt to total capital required by Standard and Poor's for a telephone company to have a double A bond rating?

A. I believe the total debt ratio is 42 percent.

Q. Now, you didn't use any independent telephone companies as proxies for the northwest company, is that correct, in your calculation?

A. Yeah. I believe that the independent companies are not good proxies. A good example of that is AllTel, which is in a proxy group of both Ms. Folsom and Mr. Hanley. AllTel has more than half of its operations in unregulated enterprises. I don't believe that represents a risk that GTE Northwest does not face.

Q. Am I correct in my understanding that Standard and Poor's financial ratio guidelines apply equally to the independent telephone company debt rates?

A. Yes. Guidelines are guidelines and they're generalities. I think that when one is rating the debt of an AllTel, for example, that has more than 50 percent of its operations in unregulated business you have to take that into account and even though they may have an equity ratio that falls within the guidelines issued by Standard and Poor's for that kind of company, those other exogenous factors have to be accounted for in reaching a decision about the bond rating.

Q. Turn to page 33 of your testimony, please. And down at the bottom of page 33 you start a section of your testimony called risk and the changing risk of telecommunications which goes on for a number of pages. Would it be a fair characterization, Mr. Hill, that your testimony stands for the proposition that you recognize that there is change and that there is competition in the telephone industry or local exchange industry but it's not significant at this point in your opinion?

A. I think I have to clarify that before I just accept that as a summary of what I said.

Q. Okay.

A. I think there is tremendous change in telecommunications. I think that's no surprise to anybody. I think that a lot of the risk, the increased risk that we keep talking about for telephone utility firms has got to be attributed to their desire to diversify into unregulated operations. In my mind that's a much bigger factor and is discussed by Standard and Poor's in other bond rating agencies. A much bigger factor than competitive inroads, potential competitive inroads into their local exchange service territories. Yes, it's true, there is bypass, it does exist. There are competitors, they do exist and there may be many of them but certainly the level of competition out there, the actual dollar impact is small. The June 4, 1994 Standard and Poor's report that Mr. Hanley quotes at length from in his rebuttal says quite clearly at the outset that telephone companies are assuming more risks by getting into video dial tone for example, and other kinds of competitive enterprises and that is where a lot of the risks are coming from. It also says quite clearly that bypass still represents only about 3 or 4 percent of the company's revenues. And in my mind three or four percent is not meaningful competition.

Q. Let me read you a statement and see whether you agree with it or not. Before I do that, did you do a specific competitive analysis for each of the service territories in which your group of proxy companies operated?

A. No, sir, but I've testified in several jurisdictions and most recently in Vermont, and Vermont has had eight alternative regulation plans

there since 1988.
     Q.   Excuse me, Mr. Hill.
           MR. PARKER: Your Honor, could I have his answer stricken and a direction that the witness answer the question asked?
           MR. TROTTER: Your Honor, if I may respond to the objection. The question was whether he had done a competitive analysis and he's explaining what analysis he did do.
           MR. PARKER: Sounds like a yes/no question to me.
           JUDGE ANDERL: I think it is a yes/no and then it can be followed up with an explanation. I think explanations are generally legitimate. Mr. Hill?
     A.   The short answer is I have not done a specific analysis of every company in my sample group as to the competitive nature of their operating risks. The longer answer is that I'm familiar generally with the competitive inroads that are being made in the telecommunications industry because I've done work in different jurisdictions and seen firsthand what's going on there. In my view, the level of competition in local exchange telephone operations is small.
     Q.   Did you do a specific analysis of

competition within the state of Washington?

A. Other than review the company's responses to data request 10 and 33, in which I asked them to support their testimony regarding competition, so to the extent that the company has provided me with a full and complete response, then I believe I've completely reviewed the situation.

Q. Let me read you a statement and see if you agree with this or not. "I am a post-divestiture state regulator who has watched rapid technological innovation blow away any remaining conceptions that the telephone industry is a natural monopoly." Do you agree or disagree that the national telephone industry is or is not a monopoly?

MR. TROTTER: Source of the quote?

MR. PARKER: Made by the chairman of this Commission on September 20, 1994 to the Senate judiciary committee on anti-trust monopolies and business rights.

A. And the quote again was? I'm sorry, I missed the entire quote.

Q. "I am a post-divestiture state regulator who has watched rapid technological innovation blow away any remaining conceptions that the telephone industry is a natural monopoly."

A. Your question to me is do I agree with that?

Q. Do you agree that local exchange is not a natural monopoly?

A. I would say yes, that's true.

Q. Now, can I turn you to page 36 of your direct testimony, Mr. Hill. And on page 36, you set forth chart 1 which is entitled GTE Northwest Bypass; is that correct?

A. Correct.

Q. And you basically state there that we have lost less than 6 percent of our total revenues; is that correct?

A. That's correct.

Q. Would you agree subject to check that that 6 percent equals 27.6 million?

A. I will accept that.

Q. Would you accept subject to check that if that 27.6 million dollars was recouped that it would increase local exchange rates at around four dollars a month?

A. No, I won't accept that. I would have to see the calculations. It depends on what are the assumptions in that calculation, whether you're talking about past or future, any kind of growth in

customer base.
Q. If I were to tell you there's approximately 710 access lines would that give you a basis on which to accept?
A. 710?
Q. 710,000.
A. If we just do that simple calculation of that 26 million divided by 710,000 and you come up with the four dollars?
Q. Approximately, yes.
A. I would accept that. Is that a 1992 number, the access lines.
Q. Yes, it is a 1992 number.
A. All right, fine.
Q. Now, the 6 percent that you have contained in your testimony, that 6 percent goes across the entire gross revenues of the company; is that correct?
A. That's correct.
Q. Would you agree with me that during the period of time covered by your chart No. 1 that the entire gross revenues of the company are not subject to competition by a competitor?
A. You'll have to break that down for me.
Q. Write it down?
A. Break it down.

Q. Would you agree with me that from 1988 to 1992 that the total revenue streams of the northwest company were not subject to competition, i.e., in 1988 there was nobody providing competitive local exchange service?

A. Oh, but there were resellers and there were people that were bypassing as bypassed is defined in the FCC reports, so there was competition on that level.

Q. There was resale of local service in Washington in 1988?

A. Well, I'm just going by your FCC reports which report some 18 million dollar bypass and that's not coming from your company. That's coming from another company, which I assume is a competitor. I don't know the details of exactly where that's coming from. This is your report to the FCC and this is my basis for saying there was competition in 1988.

Q. My question to you is, independent of the bypass report, are you aware of whether there was local exchange competition in Washington in 1988?

A. I doubt there was local exchange competition in 1988.

Q. And so the 6 percent of lost revenues in reality reflects a much higher market loss because

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that 6 percent only pertains to certain services that were subject to competitive pressures. Do you agree?

A. No. The 6 percent figure that we're bantying around here comes from 1982 figures, the latest figures, so I don't know if that holds for the entire spectrum of time that we're talking about.

MR. TROTTER: Excuse me. Just a clarification. Was that '82?

THE WITNESS: Did I say '82?

MR. TROTTER: I thought you did.

THE WITNESS: I meant '91.

Q. Let me try it one more time. If the 27.6 million, which is what the bypass report reflected in 1992 -- can we agree on that one?

A. Yes.

Q. If that 27.6 million only applied or was derived from bypass of services that had a total value of $50 million, that 26.-- 27.6 million reflects a much greater market loss for those particular services which are subject to bypass?

MR. TROTTER: I will object to the question until counsel can tell us what the market was. Obviously the market doesn't stand still and so the question is misleading. I will object to it.

JUDGE ANDERL: I understood it as a

hypothetical.

MR. PARKER: I didn't understand the objection.

MR. TROTTER: I can explain it.

JUDGE ANDERL: Overruled. I understood the question so I am going to let the witnesses answer it.

A. If indeed the market were 50 million dollars from whence that 27 came the answer to your question would be yes.

Q. Now, your chart on page 36 is in dollars on the Y axis; is that correct?

A. Correct. Millions of dollars.

Q. Let's look at 1991 through 1992 where the slope of the graph changes. Do you know whether there were any rate reductions that were made during that time period that would affect the gross revenues of the company?

A. I don't know.

Q. Would you accept subject to check that the northwest company has made $30 million in access reductions since 1990?

A. I would think that would be a reasonable course of action. Most phone companies have reduced their access charge in an attempt to stave off cream skimming.

Q. And access reductions to respond to cream skimming is going to affect the slope of your line from 1991 through 1992; is that correct?
A. Yes. And those reductions don't necessarily come from -- they come from voluntary decision by the company, not necessarily from competitive pressure.
Q. Are you aware of companies making reductions to access if it wasn't necessary in the market?
A. No, I don't think any company would reduce their prices if they didn't have to.
Q. Now, your chart and the company's data stops in 1992; is that correct?
A. Correct.
Q. Actually it stops in, I guess, 1991.
A. I will accept that.
Q. And by the time there's an order issued in this case, we're going to be right around 1995. Do you agree with that?
A. I would agree with that.
Q. Would you agree that there's been a lot of activity since the end of 1991 with regard to competition?
A. Yes, I would agree with that. Once again,

this is data that I requested from the company that support their position that competition existed and this is what was provided to me.

Q. You make reference in your testimony, do you not, Mr. Hill, regarding the FERC's generic method of determining equity capital for electric utilities?

A. Yes, I do.

Q. And that's a NARUC method that's been retracted by FERC; is that correct?

A. The methodology -- the actual FERC generic rate of return -- quarterly update process has been discontinued. The way you couch your question is incorrect. First, FERC has not abandoned the methodology.

Q. They have retracted the generic method; is that correct?

A. No. I think semantically I disagree with that. They reaffirmed the DCF methodology that they used to calculate the generic cost of equity. They've quit publishing a quarterly update to the generic return. I think we're talking about the same thing. I just have a problem with the semantics.

Q. Let me hand you an order, Mr. Hill, which I believe is the pertinent FERC order that we're talking about. Can you tell me whether that's the order,

however we decide to characterize it, regarding FERC's generic method?
A. Yes.
Q. Would you show me in there where they reaffirm the DCF?
A. Page 14, footnote 38. "This Commission does not intend by its action here to overturn this precedent regarding the proper computation of rate of return in the individual rate cases." The FERC spent nearly ten years determining that the proper computation of the rate of return in rate cases was based on a certain DCF model. One very similar to that which I used in this proceeding.
Q. Let me show you -- and isn't it correct that you can't cite to me an instance where the FERC generic method was used to set a rate of return in a contested case?
A. In a contested case, no. It was referenced in the discussion of, for example, the Yankee atomic cases, Maine Yankee, Vermont Yankee, I believe the '89, and it was used as a settlement procedure in a Allegheny general rate case in which I was involved at FERC.
Q. Let me show you at page 17 of the same order. Under the subsection that's entitled DCF

methodology does it state, "Numerous comments were received on the current DCF methodology for establishing the rate of return on common equity. Given the Commission's decision to abolish part 37 of its regulations these comments are moved for purposes of this rulemaking."

A. That's what it states, yes.

Q. Isn't it correct, Mr. Hill, that the FERC does not rely exclusively across the board on the DCF methodology?

A. Yes, it is true. They do consider other methodologies.

Q. And the telephone industry is regulated by the Federal Communications Commission not the FERC; is that correct?

A. Right. And the FCC for a time period has had a rate of return proscription process in which they decide also that the DCF model was the best methodology to use.

Q. And the existing ROR of the FCC is 13.2 percent; is that correct?

A. The FCC?

Q. Yes, sir.

A. I believe that's correct.

JUDGE ANDERL: I'm sorry, just for

clarification, was that rate of return on equity?

MR. PARKER: Overall return.

JUDGE ANDERL: Thank you.

Q. Now, turn you to schedule 3 of your testimony, please.

A. I have it.

Q. And schedule 3 sets forth earnings before interest in taxes for the independent telephone industry; is that correct?

A. That is correct.

Q. And what appears on Exhibit 3 is a regression analysis; is that correct?

A. That's right.

Q. And schedule 4 is --

MR. TROTTER: Excuse me, you said Exhibit 3.

MR. PARKER: Schedule 3.

JUDGE ANDERL: Exhibit 11.

MR. TROTTER: We're in Exhibit 11 I'm assuming.

MR. PARKER: Yes.

Q. Schedule 4 is the same as schedule 3 except it is a northwest company on a stand-alone basis; is that correct?

A. Right. Schedule 3 represents -- I believe, you use the number 600 companies in the independent telephone industry and schedule 4 is for one company, that's correct.

Q. Now, we can pick either one of these that you want to, Mr. Hill. Why don't we stay on schedule 3. What you have done here is you have estimated a regression equation which models earnings before interest and taxes is a function of time; is that correct?

A. Correct.

Q. And your explanatory variable that you have on either schedule 3 or schedule 4 is time; is that right?

A. The only independent variable you mean?

Q. That's fine.

A. That's fine, yes.

Q. And as I understand what these two schedules are supposed to prove is that earnings before interest and taxes are stable over time. That's the purpose of this analysis?

A. No. The purpose of this analysis is to look at earnings -- the stability of earnings before interest and taxes because that is a measure of business risk. It removes any kind of impact of capitalization, and if the earnings before interest and taxes of a firm are volatile then the firm is not going to be able to carry much debt because if they do there can be a situation which will exist where they're not able to meet their debt payments, and if the bondholders aren't made happy then they can shut the company down. So that's the situation with a utility which we must avoid.

Q. Let's look at page 2 of 3 of schedule 3. This is the backup, if you will, to your schedule 3, page 1; is that correct?

A. Right.

Q. Did you compute this schedule by hand?

A. No. Computer.

Q. Now, if I can read this thing appropriately, you come up with a coefficient for the slope; is that correct?

A. Yes.

Q. And what is that number?

A. .333, et cetera.

Q. And let's look at schedule 4, page 2 of 4. And the slope number on schedule 4 is 99.12, 99192.93498; is that correct?

A. That's correct. One is dealing in thousands of dollars and the other is dealing in billions of dollars.

Q. Now, essentially does the slope number which appears on page 2 of 4 of schedule 4 indicate that there is a 9,900,000 gain from year to year on your schedule 4, page 1 of 4?

A. In the regression line, in the trend of the data, yes.

Q. And that slope is constant from year to year; there is no change on the regression. Is that right?

A. This is a linear regression and the slope is by definition constant. If we had a second order or third order regression the slope could be curvilinear and it would not be constant.

Q. So would you agree with me, Mr. Hill, that what we have here is basically an average of the data over the entire time period?

A. No, sir. It's a trend, not an average. There's a very big difference and that's why the R squared, contrary to what your witness says, is a measure of the volatility of this EBIT figure, because we're not dealing with averages. We're dealing with trends.

Q. Could I turn you back to schedule 4, page 2 of 4. And I will leave the decimals off. That shows your intercept as being 32199; is that correct?

A. Correct.

Q. Is that intercept placed on the right place on schedule 4, page 1 of 4?

A. It appears on the graph to be higher than 32199. That may be due to the intercept being set different than the year 1975.

Q. Now, back to the slope for a moment, the 9,900,000, that is the same number for each 12-month period to cross the X axis; is that correct?

A. That's correct. It's a linear regression once again.

Q. And am I correct in my understanding that what schedule 4 stands for is the proposition that time is the sole variable that accounts for the increase in earnings before interest and taxes?

A. No, sir, that is wrong. I am not making a statement here that time causes the company's earnings to increase. That's not my point here at all. My point here is to look at the actual historical record of GTE Northwest as well as the telephone industry, look at that historical record and determine using a trended analysis, which is different from a standard averaging analysis, to determine how volatile the earnings before interest and taxes were. I'm not trying to make an inference that in 1996, for example, the EBIT is going to be a particular level for these companies, so that inference is incorrect and is not the basis for my analysis.

Q. Let's stay in 1992 right with the information that you have on schedule 4. Your dependent variable, which is money, is on the ordinate or the Y axis, the vertical axis; is that correct?

A. Yes.

Q. And the only independent variable that you have is the X axis or years; is that correct?

A. That's correct.

Q. So your equation is explaining the change in the dependent variable via time, is it not?

A. You could say it that way but that would be wrong to do so. That's an incorrect inference of what I'm doing.

Q. As a matter of statistics that's exactly what schedule 4 does, Mr. Hill.

A. No, not at all. You could look at it that way. You could use statistics to improperly characterize what is shown there, but I'm not trying to make an inference about the earnings before interest and taxes of GTE based on different years. There are a lot of variables, I think it goes without saying that go into making up a company's earnings and this would be a relatively simplistic way to provide -- to project what the company's earnings are going to be out in '96. Although this kind of thing is done all the time, it's not necessarily reliable for that purpose going beyond the actual historical record. What I am doing is looking at actual data, not making up anything here, the numbers company has provided me. And I'm looking at the volatility in that data to try and determine a band around that volatility which will establish a financially safe region for the company.

If we look at the dashed line on schedule 4, page 1 of 4, that is what I call an EBIT lower limit. In other words, the company will be financially safe if it's debt costs are kept below that lower limit. That lower limit is three standard deviation units away from a trend line. That means there's one chance out of a thousand that the earnings before interest and taxes of this company will fall below that level. Therefore, I think that's a pretty safe odds that will keep this company financially viable. That is my parameter. That is the purpose for this analysis. The purpose of this analysis is not to use years as a variable to predict earnings before interest and taxes.

Q. There's no independent variable included on schedule 4 that deals with structural change. Is that true?

A. Define structural change.

Q. Such things as divestiture.

A. Correct.

Q. There is no independent variable down there that contains a financial measure in any manner, shape or form; is that correct?

A. EBIT -- oh, independent variable, that is correct. Once again, I'm reporting history and to the extent that history contains structural changes and financial impacts, those are in there.

JUDGE ANDERL: Mr. Parker, I think this is going to be a good time to take our afternoon recess and we'll be back in 15 minutes.

(Recess.)

JUDGE ANDERL: Let's be back on record after our afternoon recess. Mr. Parker, you may continue with your questions for Mr. Hill.

MR. PARKER: I've got an exhibit to mark. It's entitled Emulation of Witness Hill's Model.

JUDGE ANDERL: Next exhibit in line is 17 for identification.

(Marked Exhibit 17.)

Q. Do you have Exhibit 17 before you, Mr.

Hill?

A. Yes, I do.

Q. Looking at the immediate left-hand side of Exhibit 17 on page 1 where there is year X and Y with the word EBIT under it, do you recognize that as some of the detail from your backup to schedule 2 -- I'm sorry -- schedule 4, page 2 of 4?

A. Yes.

Q. And looking approximately in the middle of the page, down at the bottom, there is an intercept coefficient and a time coefficient; is that correct?

A. That's correct.

Q. And are these the same coefficients that you have produced on schedule 4, page 2 of 4?

A. That's correct, yes, they are.

Q. So would you agree with me that what we have here is a rerun of your model as you do it and this page comes up with the same results that you came up with?

A. That's a partial rerun of my model. My model goes on to establish a zone of three standard deviation -- three standard deviation units below the trend line for the purpose of establishing a financial limit parameter, which is the purpose of my exhibit.

Q. You're quite correct. So what this does is

this is a replication of your trend line; is that correct?
A. It's a replication of part of my analysis which is the establishment of the trend line, yes.
Q. And turning to page 2 of page 17, that's just a plotting of the information from page 1 and does that look accurate to you?
A. That appears to be the same plot, yes.
Q. Now, would you agree with me, Mr. Hill, that if there was one systematic error that your plot point going up the trend line would be dispersed in a random order?
A. I think generally that would be a true statement.
Q. And what we have here, if you look at it, is from years -- from 1977 through 1980 we're below the trend line; is that correct?
A. Yes.
Q. And then from 1982 through 1987 we're above the trend line?
A. Yes.
Q. And then we go back down under again; is that correct?
A. That's correct.
Q. Would that be known as zero correlation?

A. I don't believe so.
Q. Is there a pattern to the errors?
A. Well, there may be a pattern to the errors. I haven't investigated that. The point is that this represents the actual data that I am evaluating and whether there's a pattern to the errors or not is dependent on what the company's actual results were. Now, I don't think that we can say that the company's results in any one year are dependent on the results of any other year in particular because there's so many other factors that go into it. I'm merely looking at the historical record to determine initially a trend for that historical data and then secondarily to determine a limit which sets my financial parameters.
Q. Is this a time series analysis?
A. It's a trend analysis.
Q. Let's turn to page 3 of Exhibit 17. Now, in realizing you will not concur that it's correct to do so, if one were to continue your trend line out, would you agree that the projection that is out there through 1999 is the result that would be produced?
A. This would be an analysis that I would not perform and have not performed. If you did it that's what it would look like, but it wouldn't serve my

purposes that I'm using it for in schedule 4 of my testimony.
Q. And that trend line from 1993 through 1999 would look like that even though your actual data shows a decline in earnings starting in about 1989; is that correct?
A. That's correct.
Q. Turning you to page 4 of the exhibit, please, sir. Now, what page 4 does is it reruns your model with only a portion of the data and the portion of the data used is 1975 through 1983. Do you agree that that's what that does?
A. Yes.
Q. And I will just state for the record that the reason we did that was divestiture occurred in 1983. Does that show that the coefficient of time down there increases from what you had when you used all the data points of 9,900,000 to 11,700,000?
A. It does, but that's completely irrelevant to the analysis that I've performed. I'm not doing a regression analysis to try to project the company's earnings in the next year. That's not the point.
Q. And this page No. 4 is not a projection of earnings, is it? This is exactly what you have done but only with half of the data?

A. Well, it's not exactly what I have done. It's taken a piece of a data, looking at a piece of the data in a manner different, for a different purpose than what I'm looking at it for.

Q. Would you agree that we have taken your methodology and your data points and the change that we made was only to use 1975 through 1983? ?

A. No. I would agree that you've done a regression analysis on those data points. My methodology includes a complete analysis that I show on schedule 4, page 2 of 4, and you don't do that.

Q. Okay. Would you agree that what is set forth on page 4 is using half of the data to set forth your trend line in the exact manner in which you did the trend line?

A. No. Doesn't set forth my trend line. It sets forth a regression analysis using these data which are from the records of the company. I would agree with that.

Q. And the methodology used independent -- or solely for the trend line is the same methodology that you use in producing your trend line?

A. It's a regression methodology. That's the same.

Q. And that shows an increase in the time

coefficient of to 11,700,000; is that correct?
A. It does and it's irrelevant.
Q. But going back to your schedule 4, page 1 of 4, even though you think it's irrelevant, what has happened is that the dollar increase between years has increased from nine-million-nine to eleven-seven using half the data; is that correct?
A. The numbers that you read out are the numbers that appear there. However, my analysis is not concerned with the coefficients of these variables because I'm not trying to predict earnings before interest and taxes with the year. That seems to be the assumption underlying this particular part of your cross-examination. That assumption is wrong. I will continue to say that as long as we go through this because these regressions that you show in this exhibit we're discussing now are not related to my analysis.
Q. Well, let's take a look at schedule 4. Do you have schedule 4 in front of you?
A. My schedule 4?
Q. Yes, sir.
A. Yes, sir, I do.
Q. Taking the heavy black line -- and it goes up basically in the middle of schedule 4 -- what

analysis did you do to get that line?
A. I did a regression analysis of the company's earnings before interest and taxes from 1975 to 1992 based on the income statements provided me by the company in response to data request. That is a part, beginning part of my analysis.
Q. Stay with the beginning part of your analysis. Let's use that term. Isn't page 4 the beginning part of your analysis using half of the data?
A. I would have to agree with that particular statement. However, I must reiterate that you're missing the point of my analysis. It was not the regression analysis but to determine a level at which this company would become financially troubled.
Q. Okay. Let's look at page 5.
A. Of?
Q. Exhibit 17. And does it appear that what is on page 5 is the beginning part of your analysis for the years 1984 through 1992?
A. Once again, what appears here is a regression of the information that was shown on the company's income statements for those years.
Q. And that's the same as the beginning part of your analysis but only using the latter half of the

data; is that correct?
A. It is a regression equation based on the company's income statement data and to that extent it is similar to a portion of my analysis.
Q. And does that show that the time coefficient is reduced from your schedule 4 of nine million nine down to four million three fifty-five?
A. That shows that those numbers as you read them are correct. Once again, those numbers are not relevant to the analysis that I am performing in this testimony.
Q. Let's look at page 6 of Exhibit 17. And would you agree that the slopes that are set forth on page 6 indicate the change that would happen in the slopes if you have one slope only using '75 to '83 data and the other slope using '84 to '92 data?
A. What was the first part of your question? I missed that.
Q. Does this indicate the slopes that result from doing the beginning part of your analysis using the first half and then the last half of the data?
A. It indicates that if you did that analysis, which is, as I said, not related to the analysis, the purpose of the analysis in my testimony, if you did that analysis as appears in your exhibit, you

would get two different slopes for those two different periods. I point out in my direct testimony, however, at page 33, the rationale behind the growth rate trends in the latter years for GTE Northwest. That's page 33, lines 14 through 22 of my testimony, and also would call the Commission's attention to schedule 4, page 4 of 4, of my what is Exhibit 11 in this case, and shows that over the time period that we're discussing the latter part where the company shows the trend line changing slow, we see that from 1984 forward the company's operating revenues have increased at a greater rate than its operating expenses indicating its operating margin is widening during that period of time. So that conflicts with the information that is reported in EBIT, and as I note on page 33 of my testimony, "a closer examination of GTE Northwest's income statement data since the latter 1980's indicates that a change in the slope of the company's EBIT curve is due more to the reduction in the level of taxes paid to the federal government than to any diminution of revenues."

Q.   Still have Exhibit 17 in front of you, Mr. Hill?

A.   Yes, I do.

Q.   And does page 5 of Exhibit 17 show a lower

R squared and a higher standard error for the 84 to 92 data than it does for the '75 to '83 data?

A. Yes, it does. As I've stated before, those analyses are not related to the purpose of the analysis of my testimony.

Q. They're also the T values lower for the 84 to '92 data?

A. Yes, they are, and again the same response. The analysis that appears in this exhibit is not related to the purpose of any analysis of my testimony.

Q. And does a lower R square and a lower RT indicate that the goodness of fit is worse?

MR. TROTTER: Your Honor, I guess I will step in and object at this point. The witness has repeatedly stated that this Exhibit 17, at least the latter pages, are irrelevant to his analysis. He's being cross-examined as if they are, and I guess it's time to object and not subject him to further irrelevant inquiries. This is something that a company's witness could have submitted in rebuttal and actually presented testimony on it if they wanted to make a point but they're not going to make it through Mr. Hill because he stated repeatedly that that's not the purpose of his exhibit and not the purpose of his

analysis, so I will object to any further questions for that reason.
MR. PARKER: The purpose of the exhibit, Your Honor, is to show that the trend line which Mr. Hill has used -- and I think we've established that I've used his exact methodology, I just changed the data points -- is sensitive to what data that you use. And the purpose of the exhibit is to show that there is a greater variability of earnings in a post-divestiture environment, and I think it's entirely relevant to the subject matter.
JUDGE ANDERL: Well, even with Mr. Hill's caveats about the exhibit and his answers, I do think that the line of inquiry was valid, and I am going to allow the question if there's still one pending or further questions.
A. I think there is one pending having to do with the R squared if it's lower or not.
Q. And with a lower R squared and a lower T value, doesn't that show more variability in the latter years, which I will define as '84 through '92?
A. All things equal, comparing two regression analyses, if the R squared of one is lower than the the other, that shows that the fit of the data is less good. In this particular instance, that information

is not relevant. It does not show that there is more volatility post-divestiture era. What it shows is that there is a great deal of volatility in the amount of taxes that this company is paying to the federal government. That impacts the EBIT -- directly impacts the EBIT, and if you look at my schedule 4, page 4 of 4, you will see in fact that the company's operating margins are widening over this period of time, which does not speak to unstable operating situation.

Q. Comparing your schedule 4 to your schedule 3, would you agree with me that the variability of earnings of the northwest company is greater than that of the industry which is set forth on schedule 3?

A. Yes, I would agree with that with two caveats. First of all -- and this is something that Mr. Okel will remember from the Hawaii cross-examination, I recently appeared in Hawaii in a GTE case. In that case, the GTE witness was concerned that my analysis of the industry was not relevant because of the --

MR. PARKER: Could I enter an objection, Your Honor? He had two caveats and now we're in Hawaii.

THE WITNESS: This is the first one.

MR. PARKER: I would like to hear what it is instead of a rambling narrative.

JUDGE ANDERL: I think the answer could be a little bit more directed to the question.

MR. TROTTER: We'll keep that in mind. Thank you.

A. The first caveat has to do with the fact that this is an analysis of a large group of companies and while the analysis of a group -- an industry group is a reasonable thing to look at as a basis of analysis -- we look at S and P 500 and that sort of thing all the time -- there is a damping effect of any kind of individual company movements over a period of time. That does not diminish the value of looking at that group average. However, it does mean that it is likely that an average EBIT for 600 companies is liable to be less volatile than an average EBIT for just one company.

The second caveat is that both of these companies showed very high R squared values and are both still relatively low risk.

Q. Looking at schedule 3, Mr. Hill, which is your independent telephone industry, just eyeballing the exhibit, if one were to start that line of divestiture which is 1983, would you agree with me that you would get a much lower slope?

A. No, not necessarily. The main anomaly in that exhibit occurs in 1987 and that was due to an FCC mandated accounting change, and I think that -- I have not corrected for that. It's not possible to given the data that's published by the USTA. That would indicate that if you started a regression analysis in 1983 that the likely slope would not be less.

Q. Would you agree with me that the variability of stock returns or earnings indicates the degree of volatility or risk inherent in those earnings?

A. Yes.

Q. And would you also agree with me that the variances of a probability distribution of earnings is the measure of uncertainty or risk?

A. Yes, I would agree with that. I point out that the difference in the volatility in schedule 3 and schedule 4 between the industry and GTE Northwest is due to the two reasons I mentioned before, and they are both still very stable and show low risk.

Q. Would you agree with me that some of the determinants on a firm's earnings before interest and taxes would be revenue levels, competition, operating expenses, inflations, operating efficiencies, and things of that nature?

A. The only thing I have a question about is what you mean by inflations.

Q. Inflation.

A. Well, that should be accounted for in allowed return of revenues, but yes, I would agree generally that's the sort of things that impact EBIT.

Q. Did you perform any tests of statistical significance on your regression results?

A. Other than the R squared? I did not do any T value tests or F value tests, durbin Watson coefficients, anything like that. As I've stated before several times, it was not my intent to try to use the regression analysis to try to make a relationship between years and EBIT. I used it in order to establish a lower boundary for economic or financial viability for the companies.

Q. Can you turn to schedule 3, page 2 of 3?

A. I have it.

Q. And the second line on that exhibit says Regression Analysis; is that correct?

A. It does.

Q. Turn you to page 4, page 2 of 4. In the second line on that page says Regression Analysis; is that correct?

A. That's correct.

Q. Would you agree with me, Mr. Hill, that the definition of earnings before interest and taxes is that it is income taxes both state and federal? That's the definition of taxes in there?

A. State and federal income taxes, yes.

Q. Are the individual EBITs for the telephone industry calculated according to this definition of each and every year shown on schedule 3, page 2 of Steven G. Hill 3?

A. Yes. From the data provided by the United States Telephone Association, yes. Their reports federal and state taxes.

Q. Would you agree subject to check, Mr. Hill, that from 1988 through 1991 that the data from USTA was earnings before interest and all taxes and that the data after 1988 was just state and federal taxes?

A. Well, I've used that data quite a bit. I'm not aware that the reporting was labeled all taxes prior to 1988.

Q. So you wouldn't accept that subject to check?

A. Nope.

Q. Now, in your comment about equity determination, Mr. Hill, is a secondary analysis. You also looked at gas companies and electric companies;

is that correct?

A. What do you mean by secondary analysis?

Q. To test the reasonableness of your recommendation.

A. No. My look at electric companies I think you say would be a secondary analysis. The review of gas utility costs of equity was more on the lines of a primary analysis. I looked -- the reason I looked at gas utilities was related to the reason I spoke of earlier that the RBOCS, as they become more diversified, risk goes up, costs of capital goes up, and their cost of capital begins to move away from that of local exchange utility telephone operation. In order to better balance that risk differential, I also analyzed a group of gas distributors and it's widely understood that gas distributors are -- because of their risk, exposure to bypass similar to the telephone companies; they don't have the technological risk but they do have the bypass risk -- they are more similar in risk than any of the other utilities to telephones. I believe they're less risky -- get that out -- that they are less risky but there are similarities. Therefore, they provide a lower bound of reasonableness for a local exchange telephone company costs of equity capital.

Q. Looking at your electric companies for a moment, the competition in the electric industry is just on the generation end; is that correct?

A. What electric companies are you talking about?

Q. The electric industry to the extent that there's competition.

A. Well, you said my electric companies. I'm not sure exactly what you're saying, my electric companies.

Q. The electric companies that you looked at in your testimony.

A. Well, I replicated the FERC generic return for electric utility industry. Is that what you're discussing?

Q. Yes.

A. Okay. Yes. There is more risk in the electric utility industry due to the potential for open access transmission and competitive generation.

Q. But there is nothing in the electric industry where there is duplication of transport facilities; is that correct?

A. You mean there are not independent companies building parallel transmission lines, that sort of thing?

Q. Yes.
A. That is probably not happening, yes.
Q. Am I also correct that there is nothing happening in the gas industry where a gas pipeline company is required to unbundle its network and let other people use it?
A. I disagree with that. I think there's -- there is unbundling going on in the gas pipeline industry and some of it mandated at the federal level. I know in West Virginia, which is a gas rich state, the Commission has had special kinds of transport rates for gas pipelines and there have been parallel pipes run to transmission mains to try to make a pipeline into a distributor and industrial companies have been wanting to jump on pipelines for distribution. It's a very similar situation to what exists in the telephone industry.
Q. Would you accept that the average beta for your gas company is .57?
A. Can you refer me to a place in testimony that you're discussing?
Q. I can give you a handout which has it on it. Would you like to see it?
A. Sure.
Q. Is that a listing of your gas companies,

gas distributors?

A. Yes, it is.

Q. Does that show the average beta to be .57?

A. That's what it shows there. I'm just checking. I used .58 in my testimony. It's simply the same thing, yes.

Q. And is the average for the Moody's 24 electric companies beta .68, does that look reasonable to you?

A. That looks reasonable to me, yeah. I don't believe I've used Moody's 24 electric companies anywhere in my testimony.

Q. Now, earlier in cross-examination, Mr. Hill, I believe you stated that a local exchange carrier could have an A rated bond with 50 percent debt in its capital structure; is that correct?

A. 52 percent debt I said.

Q. That's correct?

A. That's correct.

Q. And S and P's total debt criteria for an A rated local exchange carrier is a range from 40 percent to 52 percent; is that correct?

A. I believe that's correct. Includes short-term debt.

Q. And would that rating also be based on a

pre-tax interest coverage of 3.3 to 5 percent?
A. I don't recall if that's exactly right. If you say that's what it is I will accept it subject to check.
Q. Would you agree with me, Mr. Hill, that for a LEC to have an A rating with the higher end of the debt ratio up around 50 percent that they would have to have a higher range of pre-tax interest coverage up around 5 instead of 3.3?
A. Not necessarily, no. In fact, the data that's provided by Mr. Hanley in support of his rebuttal testimony indicates that independent telephone companies and the RBOCS which you said a while ago have a double A rating have an equity ratio around 50 percent currently.
Q. Can you look at schedule 14 of your testimony or your schedules?
JUDGE ANDERL: What exhibit is that?
THE WITNESS: Exhibit 11 again.
Q. Schedule 14 --
A. Exhibit 11.
MR. TROTTER: Yeah.
Q. -- is entitled Overall Costs of Capital?
A. Correct.
Q. And that shows there a pre-tax coverage of

3.36 based on your schedule 14; is that correct?
A. That's correct.
MR. PARKER: I have nothing further. Thank you, Mr. Hill.
JUDGE ANDERL: Mr. Smith or Mr. Trotter, any objections to Exhibits 16 and 17?
MR. TROTTER: Only a couple of pages were cross-examined on Exhibit 16 but we won't object to that. Exhibit 17, we'll object to pages 3 through 6. As Mr. Hill testified, his analysis was not for the purpose of projecting earnings before income taxes. And I believe he recounted time and again that those pages were an abuse of his testimony, and so the evidentiary value of those pages is nil as far as we are concerned. We will object on that basis.
JUDGE ANDERL: Mr. Smith?
MR. SMITH: I have no objection.
JUDGE ANDERL: I think that the witness did verify that the pages objected to were correctly prepared; whether they comport with what his purpose was in doing the analysis, I don't believe goes to the admissibility of the exhibit, so I am going to overrule the objection and admit Exhibits 16 and 17.
(Admitted Exhibits 16 and 17.)
JUDGE ANDERL: Mr. Smith, cross for this

witness?

MR. SMITH: I have no questions.

JUDGE ANDERL: Commissioners.

CHAIRMAN NELSON: Pass.

EXAMINATION

BY COMMISSIONER HEMSTAD:

Q. Good afternoon.

A. Afternoon, sir.

Q. Do you have any comment on the difference between using a hypothetical capital structure against the actuals?

A. Yes, I do. I prefer to use actual numbers. I think that's generally regarded as something that I would first go to. As a matter of fact, I always look at the actual capital structure as an initial estimate of ratemaking capital structure. However, I believe that we cannot do that in a vacuum. We must look at what the cost is of that capital structure. I mean, if all of the telephone utilities had 100 percent equity, would we just use 100 percent equity to set rates? I don't believe so. I think we would have to look at the cost effectiveness of that capital structure, and it's been my understanding through analyzing telephone company earnings for almost 15 years now that their earnings are very stable. They don't vary very much, and according to financial theory if your earnings are stable, you don't need a lot of equity.

And it's my belief -- and it's shown most dramatically I think with GTE that high equity ratios in the local exchange telephone companies, which are the most stable operation of GTE, an RBOC or any of the holding companies -- I mean, Standard and Poor's and Moody's, they all talk about GTE's financial stability is derived from its operation, local exchange operations. They are the most stable operations it has. They are also the operation that has the highest equity ratio, which is exactly backwards from the way it should be. In fact, GTE Corporation, the 20th largest corporation in the world, corporation gets involved in lots of unregulated operation, that is an equity ratio in the 40 percent range. Now, to me that indicates that there is financial cross-subsidization going on between the local exchange operations, which are over capitalized, and GTE's other operation, so that raises a big red flag in my mind.

Now, when I look at the operating earnings, earnings before interest and taxes, of the telephone industry and GTE Northwest, I find that a safe capitalization has got much less equity in it, and ultimately after reviewing that information as well as other utility capital structures and other industrial capital structures that an appropriate cost-effective ratemaking equity ratio for this company is 50 percent equity. So short answer is I prefer to use actual figures, but we cannot go with actual figures if it's not cost effective. It's not fair.

Q. Do you have any comment about the different levels of cost of short-term debt of the three parties here?

A. Yes. I have no problem with using a more recent cost rate for short-term debt. I believe Mr. Hanley has got four or five something -- 4.75 something. I don't know. I'm not sure what it is.

Q. 4.74?

A. I have no problem using that. I think more recent information is reasonable to use in that. Short-term debt costs have come up since I filed my testimony so I think that's reasonable. As far as short-term debt levels go, I think my analysis of looking at the company's historical levels is reasonable. I've looked at -- they've got about $125 million each year for the past three years, so that's the level that I used. While it's true that the company issued $200 million of debentures recently and as such has brought down their short-term debt level, I don't believe we can expect the short-term debt level to stay there. I think the company will continue as needs arise to use short-term debt for whatever reason it's going to use it for and if we ignore that what we're doing is effectively assigning a cost rate for the short-term debt equal to the overall weighted average cost of capital, which is much higher than their cost of short-term debt.

COMMISSIONER HEMSTAD: That's all I have.

JUDGE ANDERL: Mr. Hill, one question. Turning to Exhibit 16, page 2 of that exhibit, which is the Standard and Poor's Credit Week.

THE WITNESS: Of the cross-examination?

JUDGE ANDERL: Yes.

THE WITNESS: Yes.

JUDGE ANDERL: A portion of that was read to you and a portion of that was the ratio of debt to capital was 42.5 percent at year end at the bottom of the first paragraph. They're referring to GTE?

THE WITNESS: Yes.

JUDGE ANDERL: Do you happen to know if Standard and Poor's includes short-term debt in that percentage?

THE WITNESS: It's not clear whether they do here. They do sometimes and they don't sometimes in their reporting and in their longer reports they will set that out separately. I know that generally when they calculate coverages, they include short-term debt interest as part of the coverage calculation. And they generally base their debt benchmarks on total debt, short-term and long-term.

JUDGE ANDERL: But in this paragraph you have no way of --

THE WITNESS: It's not clear because it's sometimes reported differently. Sometimes the report is for Standard and Poor's, just like any report will just do a shorthand. They just use long-term debt and it's not clear.

JUDGE ANDERL: Thank you. Mr. Trotter, anything on redirect?

MR. TROTTER: Yes, I have a series of questions.

REDIRECT EXAMINATION

BY MR. TROTTER:

Q. Beginning of your cross-examination, Mr. Hill, you were asked about the risk premium analysis and you referred to external problems with the beta factor. We've had discussions in these sets of hearings on the Fama and French versus Professor Black debate. Are you generally familiar with that?

A. Yes, I am.

Q. Have those problems been resolved to your satisfaction?

A. No. The problems have not been resolved. The company's witness, Mr. Hanley, brings up Fisher Black's response to Fama and French, and Fisher Black is one of --

MR. PARKER: Excuse me, Mr. Hill. I don't recall this being a part of my cross-examination, anything to do with Fama and French, of this witness.

MR. TROTTER: Well, the question -- the question to which he responded or he responded talking about problems with the beta, and the door is open.

JUDGE ANDERL: I will allow the question.

A. Both Fama, Eugene Fama and Fisher Black, are economists who took part in the establishment of CAPM in the early 1970s. Fama's recent work has shown, as we've discussed here, and I'm not going to go into it, that beta is not particularly reliable. Fisher Black responds that, as Mr. Hanley says, yes, it is. If you read Fisher Black's response what you find is that his look at the data confirms Fama's look at the data, i.e., there's not much of a correlation between beta and return. Low beta stocks have just about as high a return as high beta stocks, in fact higher in some cases.

So the point is that although the capital market line is supposed to have a positive slope, the data that they've reviewed is so bad -- and this is Fama's rationale why beta is still okay. The beta is so bad, in other words, the statistics are so poor, that you can't really tell whether there's a slope to the line or not, and Fama's rationale is therefore, ergo, Fama is wrong to say that beta is dead because it may not be.

Well, that doesn't give me much confidence in beta by saying you can't tell so therefore it's still rational. I mean, the CAPM -- the beta model is an elegant idea. I don't think there's anybody that would disagree that there is some factor that we can glean from market information that we'll use to determine a risk premium, that it's this magic factor that will relate to all companies, but volatility returns is apparently not it. So while the idea of CAPM is still an elegant one, the mechanics of beta are less than satisfactory, and I would have a hard time putting much emphasis on that result.

Q. Several points in your testimony you talked about the comparable companies that were used by various witnesses, and the fact that in your opinion they had an insufficient portion of their revenues due to telephone operations. Beginning with the four companies used by the company's witness, could you tell us based on 1993 data what those telephone revenues were as a percentage of total revenues?

A. According to Mr. Hanley's work papers, which were supplied in response to data request 57 from the public counsel, the percentage of telephone revenues of the independent companies are as follows: AllTel, 43.38 percent; Cincinnati Bell, 50.7 percent; Rochester Telephone, 65.5 percent; and Southern New England Telephone gets up to a reasonable level of 87.2 percent. Now, the RBOCs according to Mr. Hanley's data, which I believe comes from Standard and Poor's Compustat services, shows that for the RBOCS that report separate telco from nontelco revenue, the averages is around 85 percent telco revenues.

Q. And what was the average equity ratio for the four independents for 1993?

A. Again, according to Mr. Hanley's own data, which came out of his work papers, rebuttal work papers, the equity ratios for his independent companies are as follows: This is dividing average equity for '93 divided by average total capital for '93. We get 50.9 percent for AllTel; 46.7 percent for Cincinnati Bell; 52.3 percent for Rochester Telephone; and 46.7 percent for Southern New England for an average of 49.17 percent equity capital for those companies.

Now, for the RBOCS, now, Mr. Hanley doesn't use PacTel in his -- Pacific Telesis in his rebuttal because of their spin-off of Air Touch, so for the six RBOCS he uses, the equity ratio '93 average are 52.5 percent for Ameritech; 44.6 for Bell Atlantic; 59.9 for Bell South, 49.42 for NYNEX; 54.9 for Southwest Bell; and 46.8 for U S WEST for an average of 51.39 percent.

Q. Now, you were asked about your exhibit chart in your testimony which showed bypass data. That's on page 36 of your testimony, Exhibit T-9. Would you turn to that sheet?

A. Yes, I have it.

Q. First of all, is it your testimony that this was the information provided in response to a data request that asked for any and all data available to quantify the dollar impact of bypass?

A. Yes, that's the company's response.
Q. Now, you were asked a question whether a 6 percent revenue drop would translate into $4 a month, and you accepted the arithmetic. Is that true?
A. Yes, I accepted the arithmetic.
Q. Is it necessarily implied by your testimony here or the data that was provided to you that the incidence of bypass means a lower total revenue for the company?
A. No, that's not necessarily the case. As the company reports in its '93 annual report, its access lines grew at like 5 or 6 percent, something like that. As long as the pie, the telecommunications pie continues to grow, the fact that some portions of the company's operations are competitive, and they're losing some market share does not necessarily mean that their total revenues will decline.
Q. You were asked numerous questions about schedule 11, schedules 3 and 4, and I think the record will speak for itself, but in your opinion, as represented on those two schedules, is R squared a measure of volatility of that data?
A. Yes, it is. And that's really the essence of what I'm getting at in these two schedules. And it's difficult to explain this, but we're working with

a linear regression here. It's key to understand. This is linear regression of the company's actual earnings experience over time. Now, if with a linear regression you have a volatile series of earnings, then the R squared, which measures the closeness of fit to a linear line, is going to be an indication of how volatile those earnings are. I think this is pretty intuitive. This is not a strict statistical definition of a regression analysis and that's not what I'm using this for. However, in this common sense understanding I think we can see that the lower the R squared, the wider the points, the actual points, are away from the trend line, the more volatile the series is. That's the point. Then once that volatility is established, then using a standard deviation unit I can establish a region around the trend line where that earnings before interest and taxes is not likely to get out of. One chance in a thousand according to statistical analysis.

So that establishes a line below which the earnings are not likely to fall. Therefore, as long as the company's debt costs remain below that line they will be financially viable, and that's why I'm using that analysis to determine that lower limit, to determine at what point we have a question about a capital structure that costs them too much debt -- has too much debt cost involved in it. At some point that will be dangerous, but 50 percent equity, 50 percent debt is not even close.

Q. You were asked or it was suggested to you that the competition in the electric industry is at the generation end. Do you recall that question?

A. Yes.

Q. In your experience, do electric companies ever lose customers or portions of customer services to competing fuels like natural gas or propane?

A. Yes. That's always a possibility. They lose customers to wood, to wood heat, as far as that goes. They also lose customers to other utilities now. That's the competition that I believe the company was referring to but there is always fuel to fuel competition.

MR. TROTTER: I have nothing further. Thank you.

JUDGE ANDERL: Anything on recross?

RECROSS-EXAMINATION

BY MR. PARKER:

Q. Competition within the telecommunications industry, Mr. Hill, is on a technology-equivalent basis; is that correct?

A. It's technology driven. I would agree with that. I don't know what you mean by technology equivalent.

Q. Competitors are both using the same type of technology. Somebody isn't substituting gas for wood or wood for electric?

A. No. That's correct. But there is substitution in competition. I mean, the reports I read are that cellular is not really a competitor for local exchange service. People don't make cellular phone calls instead of making a local -- stopping on the road and looking in the phone book. They make those calls in addition to the calls they would normally make, and it increases the wire line system usage.

Q. In regards to your recommendation on capital structure in this proceeding, you stand contrary to the recommendations of the way the industry is actually financed; is that correct?

A. My recommendations are designed to provide a cost-effective capital structure for ratemaking purposes for a local exchange telephone utility operation. The industry, as you use the term, is much broader than that, and carries more risk than a local

exchange telephone utility operation.
Q. You gave some answers to Mr. Trotter about CAPM and beta. Do you recall that?
A. Yes, I do.
Q. Isn't it a fact, Mr. Hill, that you have been using CAPM from the very beginning at the time that you started to testify?
A. That's right. Like I said, the CAPM is an elegant model. You have to recognize that it's widely used, it's widely referred to. And I do recognize that fact by using it. I merely point out that specially Fama's comments, which I think were damaging to beta because he was such an integral part of the initial acceptance of beta -- so he comes around in 1992, and says wait a minute, I think we better reconsider that, I think that's important.
Q. But even in light of that you think, you give the CAPM weight and you think the theory of asset pricing is reasonable in its use in the financial community; is that correct?
A. Yes, I do.
MR. PARKER: Nothing further.
JUDGE ANDERL: Anything else for this witness?
MR. TROTTER: I think there was just one I

should have asked, just a slip-up. I believe in one of your answers you said that Fama said Fama was wrong and I believe you meant to say Professor Black said Fama was wrong?

THE WITNESS: Yeah. Fisher Black said Fama was wrong.

JUDGE ANDERL: Thank you for your testimony, Mr. Hill, you may step down. Let's go off the record for a moment while we decide how we're going to proceed for the rest of the day.

(Recess.)

JUDGE ANDERL: Let's be back on the record. Mr. Trotter, that concluded public counsel's presentation today.

MR. TROTTER: Yes, it did.

JUDGE ANDERL: Then we'll go to the company for rebuttal.

MR. PARKER: Call Frank Hanley to the stand.

JUDGE ANDERL: While we were off the record we marked Mr. Hanley's rebuttal testimony as Exhibit T-18 and his rebuttal exhibit FJH-2 as Exhibit No. 19.

(Marked Exhibits T-18 and 19.)

Whereupon,

FRANK HANLEY,

having been first duly sworn, was called as a witness herein and was examined and testified as follows:

DIRECT EXAMINATION

BY MR. PARKER:

Q. State your name for the record, please.

A. Frank J. Hanley.

Q. And by whom are you employed, Mr. Hanley?

A. AUS Consultants.

Q. And you previously appeared in this proceeding; is that correct?

A. Yes.

Q. You've caused to be submitted to this Commission certain rebuttal testimony and exhibits?

A. Yes, I have.

Q. Turning your attention, first, to Exhibit No. T-18 which contains your rebuttal testimony. Are there any additions, corrections or deletions that need to be made to that testimony at this time?

A. There's just one errata sheet which is a modification of page No. 14 of Exhibit T-18 and that's been distributed, I believe.

MR. PARKER: How is that handled, Your Honor? Do you want that marked or just inserted or --

JUDGE ANDERL: If it's just a substitute page we'll just substitute it.

MR. PARKER: Thank you.

Q. Are there additions, corrections or deletions that need to be made to your rebuttal exhibit?

A. No.

Q. Noting the change to Exhibit T-18, if I were to ask you those same questions today, would your answers be the same?

A. Yes.

Q. And are they true and correct to the best of your belief and knowledge?

A. Yes, they are.

MR. PARKER: I would offer Exhibit T-18 and Exhibit 19 at this time.

JUDGE ANDERL: Any objection Mr. Trotter.

MR. TROTTER: No.

JUDGE ANDERL: Mr. Smith?

MR. SMITH: No objection.

JUDGE ANDERL: Those two exhibits will be admitted as identified.

(Admitted Exhibits T-18 and 19.)

MR. PARKER: Mr. Hanley is available.

CROSS-EXAMINATION

BY MR. SMITH:

Q. Mr. Hanley, I just have one question. In your rebuttal testimony at page 10, you state that in docket No. UG 920840 involving the Washington Natural Gas Company that the Commission adopted five quarter average short-term balance for inclusion in the capital structure. Do you know whether in that case the Commission adjusted the monthly balances of short-term debt?

A. I don't believe so, but I believe the circumstances in this case are --

MR. SMITH: Your Honor, that answer does not require explanation. I asked him whether he knew the Commission made an adjustment. It doesn't even involve anything he did.

JUDGE ANDERL: I think it doesn't require an explanation.

MR. SMITH: That's my only question.

JUDGE ANDERL: Mr. Trotter.

CROSS-EXAMINATION

BY MR. TROTTER:

Q. Turn to page 7 of your Exhibit T-18, line 18.

MR. PARKER: I'm sorry, what page?

MR. TROTTER: Page 7, Exhibit T-18, line 18 through 20.

Q. And there you say that no financial cross-subsidization exists between GTE Northwest and GTE Corp; is that correct?

A. That's correct.

MR. TROTTER: I would like to pass out a two-page exhibit, the company's response to our data request 60.

JUDGE ANDERL: That will be Exhibit No. 20.

(Marked Exhibit 20.)

Q. Do you recognize Exhibit 20 as your response to our data request 60?

A. Yes.

Q. And reviewing that data request, are your answers still correct, in your opinion?

A. Yes.

Q. And focusing on part D we asked whether you believed that a firm with greater operational risk should be capitalized with a lower equity ratio, and you said that if all else were equal the answer would be no; is that right?

A. That's correct.

Q. Now, we asked you also if you believed that regulated local exchange telephone operations were viewed by investors to be a more risky investment than unregulated operations, and you responded that you had made no specific study; is that right?

A. That's correct.

Q. And then you go on to say that in your opinion investors view LECs as being very business risky prospectively. Do you see that?

A. Yes.

Q. And then you refer us to page 8 of your rebuttal testimony where you excerpt an S and P survey document.; is that right?

A. Yes, that's correct.

Q. Do investors view the regulated operations of local exchange telephone companies as a more risky investment than unregulated operation or about the same?

A. I think less, but obviously increasingly so. I think that the gap is definitely narrowing.

MR. TROTTER: Next I have a multi-page document which is the S and P -- excerpt from the S and P industry survey.

JUDGE ANDERL: I will mark that for identification as Exhibit No. 21.

(Marked Exhibit 21.)

Q. Mr. Hanley, do you recognize Exhibit 21 for identification as the excerpt of the S and P industry survey that you quote from on page 8 of your rebuttal testimony, the one that was supplied in response to a data request of ours?
A. Yes.
Q. And you did not supply the entire report due to apparently concerns about copyright, but you gave us the portion that you felt was relevant to your testimony here?
A. Yes. I covered and then a few pages even beyond the areas from the reference on page 8 of Exhibit 18.
MR. TROTTER: Your Honor, move for the admission of Exhibits 19 and 20.
JUDGE ANDERL: Actually it would be 20 and 21.
MR. TROTTER: 20 and 21.
MR. PARKER: No objection.
JUDGE ANDERL: Hearing no objection, Exhibits 20 and 21 will be admitted as identified.
(Admitted Exhibits 20 and 21.)
Q. Now, you also discuss in your testimony the issue of double leverage, and isn't it true that the Oregon, Idaho and Montana commissions have used double

leverage with respect to GTE Northwest's debt and debt at its parent level?
A. Yes, although as indicated in our response to your data request, we listed those and indicated it was irrelevant since no party in this case was advocating the use of double leverage.
Q. Now, AUS Consultants of which you were a partner --
A. We're a corporation. I'm a principal officer and shareholder, yes.
Q. -- it publishes the C.A. Turner utility reports, does it not?
A. Yes.
MR. TROTTER: Your Honor, like to show the witness a copy of the September 1994 edition.
Q. Do you recognize that?
A. I do.
Q. If you could refer to page 9 and tell us or isn't it true that the average equity ratio of the natural gas and utility industry is 53 percent?
A. Yes, of district and integrated natural gas companies, that's correct.
Q. And turn to page 11 of that document, and that shows the average equity ratio for telephone companies to be 52 percent?

A. Yes.
Q. And GTE Corporation is listed at a 42 percent equity ratio?
A. GTE Corporation, that's correct.
Q. Turn to page 16 of your rebuttal testimony. And actually on bottom of the prior page you refer to a FERC decision involving Williston Basin interstate pipeline; is that right?
A. Yes.
Q. And that's a -- I believe that was a 1989 decision that you're quoting from. Would you accept that subject to your check?
A. Yes.
Q. And isn't it true that the FERC issued an order on rehearing in that case in 1991?
A. Well, it's either -- I can't locate it right now. It's either 1990 or 1991, but yes.
Q. You were familiar that there was rehearing on that case?
A. Yes.
Q. And on rehearing did the FERC reiterate its comments about CAPM that you recite here or did they not or do you know?
A. I think in the rehearing, if my memory tells me correctly, they didn't really reiterate

anything with regard to the comments made in the 1989 decision.

Q. Now, in that order on rehearing, the FERC stated that the T bill rate was theoretically more appropriate than the T bond rate in determining an appropriate risk free rate. Isn't that true?

A. I don't recall.

Q. You also on page 16 of your rebuttal testimony refer to an Indiana Commission decision. Have you reviewed the most recent order out of that Commission?

A. Well, I don't know. Why don't you tell me what it is, and I will let you know. As a practical matter, I don't monitor the Indiana Commission's orders as they come out on a daily basis. If I happen to read about them in RRA, Regulatory Research Associates, or through some other means in the media, and it seems interesting, then I perhaps try and get a copy of the order.

Q. Isn't it true that Indiana determines its ratemaking capitalization and overall cost of capital using deferred taxes as zero cost capital?

A. I think that's right.

Q. And Indiana is a fair value rate base state, is it not?

A. It is.

Q. Turning to your Exhibit 19, schedule 9, page 3, and if you could keep that exhibit in hand while you refer back to your rebuttal testimony on page 49 where you refer to this exhibit. On page 49 of your rebuttal testimony, line 16, you say that "Since 1986 the interest rate on 30-year U.S. treasury bonds has come to track changes in the cost of capital to a public utility company much more closely than has the interest rate on three-year treasury notes." Is that right?

A. Yes.

Q. And if we go to schedule 9 in Exhibit 19, page 3, this analysis starts with March of 1989 not 1986. Could you explain that apparent discrepancy?

A. Well, I don't think it's a discrepancy. Mr. Hill referred to the 1986 case and that is a general observation of mine that is in fact true that precisely what it says: since 1986 the interest rate on 30-year U.S. treasury bonds has come to track utility cost of capital as measured by the A-rated bond much more closely.

In response to public counsel data request 75, resulting from this very discussion that you generated, I provided you with an analysis of the variability between January 1981 and December of 1985 because the question was, "please provide all empirical evidence available that 30-year T bonds since 1986 have tracked changes and public utility equity much more closely than three year T notes. That was part A. And part B was provide evidence that during the time of Mr. Hanley's analysis in 1986 that three-year T notes tracked changes in public utility costs, quote, much more closely, unquote, than 30 year T bonds. "If such evidence is not available, on what basis did Mr. Hanley select three-year T notes as a risk-free rate?"

And my response goes on to show that the volatility between that period of time, the 1986 case to which Mr. Hill referred, and the present time, has increased by fourfold, the spread. In other words, the three-year T note at that point in time versus now in contrast to the long bond has increased in terms of volatility fourfold, and so it's much more inappropriate for use now than it was in 1986.

Q. Are you done?

A. Yes.

Q. Thank you. You talked about your response to our request 75 and that analyzed years '81 through '85; is that right?

A. That's right.
Q. And your schedule 9, page 3 of Exhibit 19, analyzed '89 through '94; is that right?
A. That's right.
Q. And your testimony on page 49 talks about the time period since 1986. So as simply the point of my question was what happened to '86, '87 and '88 data? Doesn't seem to be included either on your schedule 9 of Exhibit 19 or your response to our request 785 so if you can just answer that question we'll move ahead.
A. Well, I believe I have answered it. Apparently not to your satisfaction, but I will try again. The comment relative to 1986 in the testimony is in response to Mr. Hill's reference to my 1986 testimony in a West Virginia proceeding where at that point in time I used the three-year treasury note as the proxy for a risk-free rate and CAPM. Schedule 9, the information shown on there is basically an update, a bring-forward of the same information that was contained in my direct testimony.
Q. But it's not an update from 1986, is it? It's an update from '89 through '94?
A. It isn't, no. But I'm telling you that the trend, it has become much more volatile and it's

fourfold more volative. By "it" I mean the three-year T note, treasury bills and all of the other short and intermediate securities vis-a-vis the long bond.

Q. Now, if we take a look at your schedule 9, in March of 1989, we see that shorter term interest rates have higher yields than longer term interest rates and emphasizing March 1989. Is that correct?

A. Would you repeat the question, please.

Q. In March of 1989, we see that shorter term interest rates have higher yields than longer term interest rates. Is that correct?

A. Higher?

Q. Yes. For example, for March of 1989 the 10-year bond has a higher rate of interest than the 30-year bond and, likewise, the two-year T note is higher than all longer maturity instruments shown on that line; is that right?

A. Well, at that given month, yes, that was true, yes, slightly.

Q. Do short-term debt instruments usually yield a higher return than long-term debt instruments?

A. They vary. You can have an inverse yield curves. We have had them. Normally for a number of years since we've been more in a normal yield curve, as you can see by the trend going all the way down the schedule for the many months that are shown.

Q. And a normal yield curve is what?

A. When longer maturities have higher yields than shorter maturities.

MR. TROTTER: Your Honor, next I have a one-page exhibit.

JUDGE ANDERL: Next exhibit in line is Exhibit No. 22. This does not have a title by which I would identify it except to say that it looks similar to that schedule 9 that we've just been referring to.

MR. TROTTER: That's correct.

(Marked Exhibit 22.)

Q. Mr. Hanley, like to refer you to Exhibit 22 for identification. Could you confirm that this exhibit is a replication of the beta that appears on your schedule 9, page 3, with the exception that it starts in January of 1992 as opposed to March of --

A. Well, I can say that only with regard to format.

Q. Format and data contained in the table before the box?

A. I don't think the Commission is going to bear the indulgence for me to sit here and proofread all these numbers.

Q. Would you accept it subject to check.

MR. PARKER: Your representation is you just printed off January 1992 and printed -- bottom third is the same?

MR. TROTTER: Yes. Extremely similar to several exhibits the company has offered, I will simply note for the record. But, yes, the January of 1992 through May 1994 data are extracted precisely from the schedule 9 table of Mr. Hanley's. The box at the bottom is the analysis of that data done in the precisely the same manner as shown on schedule 9 except, obviously, like many of the company's exhibits of our witness, they're different because a different time period was used.

Q. So I will ask again, will the company accept subject to check that the data shown on Exhibit 22 was extrapolated from schedule 9, page 3 of Exhibit 19, and the data in the box derived there from --

A. Well, your question just said will the company. I'm not the official representative of the end company. So I'm looking at counsel.

Q. Will you accept it subject to check?

A. I will accept the representation that the information is identical, that it's not misrepresentative. I won't vouch for the calculations themselves and I will further add that any inferences that can be made in my opinion is too short a period of time just a little over two years to make any meaningful determination of the volatility.

Q. I would ask that the company accept subject to check in the manner that's customary with the Commission and which has been -- my witness has been subjected to throughout his cross-examination that the data in the box is correct subject to their check.

JUDGE ANDERL: Mr. Parker.

MR. PARKER: Sure.

MR. TROTTER: Thank you.

Q. The data shows, does it not, Mr. Hanley, that from January 1992 through May 1994, looking at the standard deviation line at the bottom, that in the right-hand column the standard deviation for the S and P A-rated utility exactly matches the standard deviation of the 90-day T bill. And that the 30-year T bonds have the highest standard deviation?

A. That's what this shows as to its relevance I don't vouch. As I said, I believe it's much too short a period of time between 1992 and 1994 to make a real conclusion about the volatility.

Q. Let's go over to your response to our data request 75 that you referred to earlier. And I believe you -- this was an analysis of variability in

key interest rate benchmarks similar to your exhibit 19, schedule 9, but done from January of 1981 through December of 1985; is that right?
A. That's correct.
Q. And this arose, as you stated, because there were some questions about your use in a 1986 proceeding in which you used a three-year treasury note as the risk-free rate; is that right?
A. That's right.
Q. And isn't it correct, based on your response, that five-year treasury notes, 10-year treasury bonds and 30-year treasury bonds all have standard deviations which were closer to that of the A-rated utility bonds than the debt instrument that you used in that 1986 proceeding.
A. I'm going to ask you to repeat that question, please.
Q. In that proceeding you use the two to five-year average which was your proxy for the three-year yields; is that right?
A. Yes.
Q. And isn't it true that the 30-year T bonds, the 10-year T bonds and the five-year treasury notes all have standard deviations closer to that of the S and P A-rated utility bonds than the data you used?

A. No. It was not closer than the five-year.

Q. Go ahead.

A. But as I pointed out before, that still didn't trouble me enough, but the trend since then, as indicated in part B of response to public counsel data request No. 75, the standard deviation of the average yield on two dash -- when I say two to five-year it's 2-5 year T notes of 2.01 -- was 35 percent greater than the standard deviation of yields on A-rated utility bonds at 1.49. In contrast from our current analysis through March of 1989 through May 1994 shows that the standard deviation of the two- to five-year T notes of 1.56 was 148 percent greater than the standard deviation of 0.63 of the yields on A-rated utility bonds. Relating that 148 percent to the 35 percent is why I say the volatility has increased on those shorter term treasuries by fourfold during that period of time, which leads me to believe that the proper proxy for a risk-free rate at this point in time is the 30-year U.S. treasury bond.

Q. Let's do it this way. You already read in the standard deviations for the two- to five-year T note from your response to our request 75 as approximately two, 2.011?

A. Yes.

Q. And for the S and P A-rated it was 1.4924?

A. That's right.

Q. And for the 30-year treasury bond it was 1.2954; is that right?

A. That's right.

Q. And for 10-year T bond it was 1.5321 and for the five-year T note it was 1.814; is that right?

A. Right.

MR. TROTTER: Nothing further, thank you. I would move for the admission of Exhibit 22.

MR. PARKER: No objection.

JUDGE ANDERL: That exhibit will be admitted as identified.

(Admitted Exhibit 22.)

JUDGE ANDERL: Questions from you, Commissioner Hemstad.

EXAMINATION

BY COMMISSIONER HEMSTAD:

Q. What is the current equity ratio of GTE Northwest?

A. Well, by current, Your Honor, is based on the capital structure that I recommend is 59.093 percent. That includes short-term debt of 1.411 percent in the capital structure.

Q. And the short-term debt, that ratio you determined from the last five quarters, is that the --

A. It is from the last five quarters, Your Honor, but I've taken the actual average and adjusted -- haven't adjusted the average but I've adjusted in each of the months during that period of time to remove the short-term borrowings that had absolutely no relationship whatsoever to the provision of cash that could go into the construction of rate base if in fact this were a rate case, which I recognize it isn't, but from a conceptual viewpoint in determining the capital structure we're supposed to be trying to come up with a rate base that -- with a capital structure, excuse me, as to how the rate base is presumed to be financed, and I would submit that the very substantial, on average for a number of months, over 182 million dollars, for example, was attributable to monies used to redeem high cost debt. Those monies by definition were paid to the holders of those high cost bonds to induce them to submit them so that the lower costs could take their place. That money clearly could not be presumed to be financing rate base again assuming this were a rate case which I recognize it isn't.

Q. So for that reason you don't consider the historical pattern to be relevant for future projections?

A. Oh, I think it's relevant if it's normalized. The concept of normalization, taking out things that don't belong or that are aberrant, is very, very consistent with the whole notion of rate regulation and normalizing. That's done all the time in the ratemaking concept, and that's exactly what's done here. We've normalized, taken out those aberrant things that are not available for or that cash is not available to be financing or going into new construction for the LEC.

Q. Going back to equity ratios, and what is the current equity ratio for GTE Corp?

A. Well, I think it was just indicated that it's about 42 percent. I'm not sure what period of time that was for, but it's more or less about 42 percent.

Q. Do you know what the average equity ratio is for the other telecommunications subsidiaries of GTE Corp that are the equivalent or analogous to GTE Northwest?

A. Well, they vary, obviously, from subsidiary -- each individual entity, but the ones that I have been familiar with in the past, albeit at various points in time, have tended for the most part to be above 55 percent and less than 60 percent as a broad range. But that is consistent with what's indicated given credit quality, the Standard and Poor's financial benchmarks with the limitations on total debt for certain credit status and is also consistent with -- in fact somewhat less than the averages of the U.S. telephone association composite companies of about 600 or so.

COMMISSIONER HEMSTAD: That's all the questions I have.

JUDGE ANDERL: Thank you. Anything on redirect?

MR. PARKER: Just a couple.

REDIRECT EXAMINATION

BY MR. PARKER:

Q. Do you still have Exhibit No. 20, Mr. Hanley?

A. It's our request of public counsel data request 60?

A. I do, yes.

Q. A local exchange carrier subject to financial ratio guidelines by Standard and Poor's?

A. Yes, they are.

Q. Is GTE Corporation subject to those guidelines?

A. No. GTE Corporation is not a local exchange company and it in fact has been brought out that as far as industrial companies there are no financial ratio guidelines as there would be for local exchange company. GTE Northwest is the entity which issues the debt and secures the debt and the guidelines apply to it just the same as it would to an independent LEC. There are the same financial benchmarks apply across the board.

Q. Do you still have Exhibit No. 22?

A. I do, yes.

Q. Why, in your opinion, is that time frame too short?

A. Well, I mean, typically in terms of analysis, even with monthly observations, one would attend -- typically want to look at a period of time of at least five years to come up to a meaningful conclusion as to volatility, or even if one is doing a regression as is the case with the development of betas, most Value Line, Standard and Poor's, Merrill Lynch all use a period of 60 months in their regressions to determine betas. I just think that, frankly, that a two-year period of time is much too short to determine a meaningful indication of volatility.

MR. PARKER: I have nothing further.

JUDGE ANDERL: Anything further on cross, Mr. Smith?

MR. SMITH: No.

JUDGE ANDERL: Mr. Trotter?

MR. TROTTER: No.

JUDGE ANDERL: Thank you, Mr. Hanley, for your testimony. You may step down. Let's be off the record and discuss briefs.

(Discussion off the record.)

JUDGE ANDERL: Be back on the record. Briefs in this matter will be due on Monday, November 15.

MR. TROTTER: 14th. Looking at my calendar it says Monday 14th.

JUDGE ANDERL: Well, whatever that Monday is. I think you are right. Monday the 14th of November filed with the Commission by 5, served on the other parties, one round simultaneous briefs in accordance with the Commission's rules on briefs. We're off the record.

(Hearing adjourned at 5:15 p.m.)