Allocation Hearing Exhibit 1058

I-N-D-E-X

Witness	Examination by	Page
Dr. Stanley M. Besen		
	Direct by Mr. Lane	3574
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E-X-H-I-B-I-T-S

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P R O C E E D I N G S

9:38 a.m.

CHAIRPERSON JIGANTI: You may proceed, Mr. Lane.

MR. LANE: Thank you.

CHAIRPERSON JIGANTI: I am sorry. I have one administrative function.

Whereupon,

DR. STANLEY M. BESEN

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

DIRECT EXAMINATION

BY MR. LANE:

Q Would you please state your name for the record.

A Stanley M. Besen. That is B-e-s-e-n.

Q What is your current position?

A I am a vice president at Charles River Associates, which is an economic and business consulting firm.

Q Would you describe your educational background for us, please.

A I hold an undergraduate degree in economics from the City College of New York, a Master's of Arts, and PhD in economics from Yale

University.

Q Could you briefly describe your experience since you got out of school.

A The first position that I had after leaving school was for a year as an acting assistant professor at the University of California, Santa Barbara.

After that I worked for two years as an economist at the Institute for Defense Analyses in Washington.

For the next 15 years I was a member of the faculty at Rice University, where I was an assistant professor, an associate professor, and finally a full professor of economics.

During that time period, 1978 to 1980, I took leave from Rice and served as the co-director of the Network Inquiry Special Staff at the Federal Communications Commission.

In 1980 I left Rice and joined the Rand Corporation where I was a senior economist from 1980 to 1992. During that period I took leave twice, once to be a visiting professor of law and business at Columbia University, and once to spend a year as a visiting professor of law and economics at the Georgetown University Law Center.

In 1992 I joined Charles River Associates.

Q And all of this is shown on your resume at the end of your testimony. Is that correct?

A That is correct.

Q Have you concentrated in any particular area of economics?

A My work for about the last 25 years has focused on the areas of the economics of telecommunications and the economics of intellectual property.

Q Have you written any articles, books, or publications in those areas?

A I have.

Q And could you just identify a few of those for us, please.

A A number of them are summarized in the first part of my prepared statement.

The recent paper on the regulation of cable television; a Rand Corporation paper analyzing the FCC's regulation of media ownership; an analysis of mandatory lease channel access for cable television; a paper that appeared on law and contemporary problems on cable television deregulation; an early paper on the compulsory license for cable television, which appeared in the Journal of

Law and Economics, and various other papers on cable television regulation going back to 1974.

Q And have you written any other articles or publications?

A Yes. A considerable number.

Q And are those listed in your resume at the end of your testimony?

A They are.

Q Have you testified before at the Copyright Royalty Tribunal?

A I have.

Q On whose behalf did you testify?

A On behalf of the Motion Picture Association of America.

Q And what was the subject matter of your prior testimony in the proceedings?

A I appeared on a number of occasions, primarily as a rebuttal witness on issues involving the setting of the compulsory license rate, on the issue of syndicated exclusivity, and on various distribution proceedings.

Q At this time, Mr. Chairman, I would make Dr. Besen available for voir dire.

MR. NEIMAN: A brief voir dire.

CHAIRPERSON JIGANTI: Mr. Neiman.

VOIR DIRE

BY MR. NEIMAN:

Q Dr. Besen, I am Peter Neiman, representing the Joint Sports Claimants. Good morning.

A Good morning.

Q With regard to what you were talking about with Mr. Lane, you testified in the 1979 Copyright Royalty Distribution proceeding?

A There have been a number of them. I am not sure I can identify any of them specifically by date.

Q I think in that one you testified about a regression analysis that had been prepared by the Joint Sports Claimants. Do you remember that?

A I remember testifying on that issue. Yes.

Q And you criticized that regression study. Right?

A I criticized the particulars of that regression study. Yes.

Q And that was testimony that you offered on behalf of the Motion Picture Association of America. Right?

A That is correct.

Q You also testified in a 3.75 rate

adjustment proceeding. Right?

A My recollection of that is dimmer, but that is probably correct.

Q Okay, and again that was on behalf of the Motion Picture Association of America?

A I believe that is correct.

Q And your testimony there was about the harm from distant signal carriage. Isn't that correct?

A My recollection of that -- it has been awhile and I can't remember that very clearly.

Q And then MPAA hired you also for the 1983 Copyright Royalty Distribution proceeding. Right?

A Again, I don't remember the particulars.

Q And there you were criticizing the constant sum survey submitted by the Joint Sports Claimants.

A I believe I have criticized that survey on a number of occasions.

Q And then MPAA hired you again to testify in the Syndex rate adjustment proceeding. Right?

A I believe that is correct. Yes.

Q And there you were urging the tribunal to retain the Syndex surcharge. Right?

A I can't remember the details of that at

this point.

Q And then MPAA hired you again in their 1989 distribution proceeding. Right?

A I believe that is correct.

Q And in that proceeding they hired you to prepare rebuttal related to the Bortz testimony. Right?

A I believe that is correct.

Q Okay, and then MPAA hired you again in the 1990 distribution proceeding. Right?

A I believe that is correct.

Q And in that proceeding you presented a regression analysis quite similar to the one you are presenting today.

A That is correct.

Q And you were cross examined at that time about that regression. Correct?

A That is correct.

Q You have had the opportunity to update your regression analysis based on what happened. Is that correct?

A That is correct.

Q You have also testified before congress a number of times on behalf of the MPAA. Is that correct?

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A No. I think that is not correct.

Q You have testified before congress on behalf of program owners. Is that correct?

A I believe all of my testimony before my congress was as a private citizen, and not for any individual party.

MR. NEIMAN: That is all of the voir dire I have.

CHAIRPERSON JIGANTI: Any other questions for Dr. Besen?

MR. LANE: I would move to qualify Dr. Besen as an economist in the field of telecommunications and intellectual property.

MR. GOTTFRIED: I didn't hear that. I am sorry.

MR. LANE: I would move to qualify Dr. Besen as an expert witness, as an economist in the fields of telecommunications and intellectual property.

CHAIRPERSON JIGANTI: Hearing no objections, he is found to be qualified in those areas. You may proceed.

MR. LANE: Thank you.

BY MR. LANE:

Q Dr. Besen, did you do an analysis for this

proceeding?

A I did.

Q What kind of analysis did you do?

A I conducted an analysis of the actual behavior of cable operators in their decisions to add or delete distant signals in order to obtain estimates of the appropriate shares to be assigned to various copyright claimants.

Q Why did you measure actual behavior of cable operators?

A Well, in the past, as you may know, I have criticized other submissions before the Copyright Royalty Tribunal that relied exclusively on statements by cable operators about what they might do in particular hypothetical circumstances.

I argued very strong that, in fact, a much better indication of the value of programs to cable operators is what they actually -- is their actual behavior.

So I decided to do a study of actual behavior in order to obtain much more reliable estimates of those relative values.

Q And what was the purpose of your study?

A The purpose of the study was to obtain estimates of the shares that are appropriately

assignable to the various copyright claimants in this proceeding.

Q And what conclusions did you draw from that -- from your analysis?

A The conclusions I drew with respect to the appropriate shares to be assigned to the various claimants are that the appropriate share to be assigned to the movies and series claimants is something between 82 and 92 percent of the pool.

The appropriate share to be assigned to the sports claimants is something between 5 and 11 percent of the pool.

The appropriate share to be assigned to devotional program claimants is somewhere between 1-1/2 and 2 percent of the pool, and that with respect to local programmers, somewhere between 1 and 9 percent of the pool.

Q And these are the same numbers that you show in the executive summary of your testimony?

A That is correct.

Q And did you measure PBS in your analysis?

A No. PBS is not taken into account in this analysis.

Q What were the basic premises from which you started your analysis?

A Well, the first is the one I have already indicated, which is that it is much better to rely on real world behavior than to answer hypothetical questions about behavior.

The second basic premise is that what cable operators pay for distant signals, pay when they add distant signals, for example, provides a reasonable measure of the value of those distant signals for the cable operator.

Finally, that it is possible to decompose that value, the value of a signal, into the value of the components of that signal.

In this particular case the value of the particular kinds of programs that appear on that distant signal.

Q You have already explained the first premise, so why don't we go to the second premise. Why is the value of distant signals to cable operators reflected in the royalty payments that they make?

A The assumption that I make, like all other economists, is that cable operators attempt to maximize their profits.

So when a cable operator adds a distant signal and incurs additional costs from doing so, he will only do so if the additional costs that he

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incurred are less than the value of the distant signal to him, and so the value of the distant signal is going to be greater than or equal to the amount that he has to pay to carry that distant signal, and as a result, the amount he pays is a reasonable measure of the value of that distant signal to him.

Q Now let's go to your third premise. How do you know you can separate the programming components and study them when royalties are paid on the basis of entire distant signal?

A A widely used technique by economists is something that goes under the jargon of hedonic analysis.

Hedonic analysis is nothing more than an attempt to take the value of a product that consists of a collection of components or attributes and to assign the separate values to each of the components that comprise the whole product or package.

Just by way of illustration, one of the earliest applications of this was an attempt to separate the value of mainframe computers into the value attributable into, for example, processing speed or memory size.

So this is a technique that economists use in many contexts where they have a product that

consists of a bundle of attributes and they attempt statistically to separate the total value into the value of the separate components.

That is what I have done here.

Q What are the types of revenues that a cable operator expects to attain from distant signals?

A When a cable operator adds a distant signal and incurs the additional cost of doing so, he expects revenue from a number of different sources.

First, and this is on page 7 of the prepared statement, if you want to look along.

There are basically four sources. One is the cable operator may attract additional basic cable subscribers when he has the distant signal.

Second, it may be possible to raise the basic subscriber fee to those subscribers who are already subscribing because the package or programs that he offers is now more attractive.

Third, some of the newly attracted subscribers to the basic service may choose to subscribe to other services as well.

For example, they may choose to take an expanded basic service or a premium service like Home Box Office, and finally, some of the new subscribers may watch other, advertised supported channels, and

the cable operator may get additional revenues from advertising on local -- on some of his services, when he has a distant signal.

What the operator cares about is the combined addition to his net revenue from all of these sources when he has a distant signal.

Q How would the operator maximize profits from adding a distant signal?

A An operator will maximize profits by continuing to add distant signals so long as the additional revenue from adding a signal exceeds the additional copyright royalty payment that he has to make to add a signal.

He will keep adding distant signals as long as, in effect, they add to profits, and they will add to profits if the additional net revenue generated exceeds the additional copyright royalty payments.

Q Did you study distant signal additions in your analysis?

A I did.

Q Did you study anything else in your analysis?

A I also studied instances in which cable operators deleted distant signals.

Q Why would a cable operator delete a

distant signal?

A A cable operator would delete a distant signal if, in fact, he saves more in copyright royalty payments by doing so than the reduction in his revenue from the various sources I described earlier, and so a profit maximizing cable operator who is carrying a distant signal may find that he can increase his profits by deleting a signal if he saves more in royalty payments than he loses by foregoing the additional revenues.

Q What is the source of value on a distant signal?

A It is the programming the distant signal contains.

Q Now, isn't it true that royalties are paid for entire distant signals, not for individual program titles?

A That is correct.

Q And could you go over again how you measured the value of each programming type on a distant signal?

A Again, it is possible, using the hedonic technique, which is statistical analysis, to provide estimates of the separate values of the components of a distant signal.

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That is the component programs of a distant signal, even though the cable operator buys the distant signal in its entirety.

Q Why did you limit your analysis of distant signals to additions and deletions?

A They are basically two reasons, one is that the effect we are looking for is inevitably going to be surrounded by lots of other things that are going on in the cable operator's world.

Other things are happening to change the circumstances in which the operator functions, and one might have simply focused basically on the steady state behavior of a cable operator, those are your cable operators that weren't even adding or deleting distant signals.

The concern that I had was that there would be so many factors that I would have to take into account that it would be difficult, in fact, to then disentangle the effect of the factors that I am particularly interested in here.

So by focusing on instances in which cable operators made changes in their line up of distant signal offerings, I thought I had a better chance of extracting the impact of the variables that I was interested in from all of the surrounding noise.

The second reason is -- and it is related to the first -- is that I was looking for essentially instances in which the changes that -- the variable I was going to be looking at was going to have a large effect.

I was looking for large perturbations, to use a technical term. I wanted instances in which the changes in programming were large so that I could more easily determine the effect of the value of those programs from all of the other things that might confound my ability to extract the effective interest.

I wanted to look at instances in which there were large changes in the programs on all the distant signals carried by a cable operator, and that is why I focused on additions and deletions.

Q Is that why you didn't look at changes in programming on an existing distant signals carried by the cable systems?

A Yes, because those effects, while they are certainly there, because they tend to be small, the variations, the year-to-year changes in programs carried by an existing distant signal are likely to be relatively small, and again, difficult to disentangle their effects from all of the surrounding noise.

I was looking for a technique that

permitted me to maximize the likelihood that I could extract -- I am using the word "signal" here differently than I did before, but I want to extract the signal that I was looking for, the variable of interest, the impact of the variable of interest from the noise, and I adopted a technique designed to maximize the likelihood that I could do that.

Q What was the variable of interest to which you keep referring?

A The variables of interest are the effects of changes in the programs on distant signals on the value of the distant signals that the cable operator chooses to carry.

Q Could you reiterate for us what data your studies analyzed?

A There are basically several sources, several types of data. In the first place I obtained data on -- for all of the Form 3 cable systems that added or deleted a distant signal over the period 1988 to 1992.

I obtained for those cable systems the entire line up of distant signals they carried, as well as information about their royalty payments, and a variety of other pieces of information.

So that is the -- the royalty numbers, the

numbers that I use to get at the total value of the signal.

In addition I collected data on the programming on the distant signals that were carried by the cable operator.

Q What basic statistical approach did you follow?

A The basic statistical approach was to relate changes in the programming on the distant signals.

That is these -- and that should be clearer I think, in a moment -- changes in the programming on the distant signal complement carried by a cable operator to changes in the royalty payments made by that operator.

Q How did you measure those changes?

A The changes are measured as percentage changes in the viewer-weighted hours of programming of each type of programming.

ARBITRATOR FARMAKIDES: Could I ask a question, sir?

MR. LANE: Sure.

ARBITRATOR FARMAKIDES: Going back to Mr. Lane's earlier question, how did you gather the data for that calculation?

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THE WITNESS: The data were supplied to me by the Motion Picture Association, which has information about both the composition in hours of the programs on a large number of distant signals, as well as information about the viewing of those distant signals in cable households, and they supplied me information about various distant signals, both with respect to the hours of programs carried in various categories, and with respect to the viewing of programs in those various categories, and I used those to construct the variables that I analyzed.

ARBITRATOR FARMAKIDES: How did you relate that to the standard Form 3 data that you extracted earlier?

THE WITNESS: Well, I think it will be clear in a moment but the --

ARBITRATOR FARMAKIDES: All right. Move on. Excuse me. That is fine.

THE WITNESS: In a sense, those variables are -- I hate to use jargon here -- are the explanatory variables in my analysis, and the information from the Form 3 that is the royalty data, are the variables to be explained, the value.

So I am basically taking the value and decomposing it into the value of the separate

components, the separate program components. That is the approach.

I think it will be clearer as we proceed.

ARBITRATOR FARMAKIDES: I am sorry, Mr. Lane.

MR. LANE: That is quite all right.

BY MR. LANE:

Q Why did --

ARBITRATOR WERTHEIM: I had a question, too.

MR. LANE: I'm sorry.

ARBITRATOR WERTHEIM: You say you didn't have enough data to include PBS. The omission of PBS from your study pretty well freed you from the problem of how to cope with the .25 rate in terms of how you did this.

THE WITNESS: It did, but that wasn't the reason I did it. I simply did not have information about PBS, and therefore could not analyze those effects.

ARBITRATOR WERTHEIM: You mean, all of the Form 3s for what was it -- a four or five year period, did not include enough data on stations carrying, the systems carrying PBS?

THE WITNESS: The problem was not that.

The problem was information about the programming on them, and I didn't have that.

ARBITRATOR FARMAKIDES: Could you be more specific, sir. That interests me, too.

THE WITNESS: Well, all I can tell you is that in fact, I was supplied with the information about the programming hours and the viewing for the four claimants, movies and series, sports, local, and devotional.

I was not supplied with the information about public broadcasting, and therefore could not carry out this analysis for them.

ARBITRATOR FARMAKIDES: When you said earlier that you use Form 3s in order to obtain data, did you personally, or did your staff obtain data directly from the Form 3s?

THE WITNESS: No. These data were supplied to us by the Cable Data Corporation, which I believe has provided information in these proceedings for many years.

We requested to them that they supply us with information about all of the Form 3 systems that had added or deleted a distant signal during the period 1988 to 1992.

ARBITRATOR FARMAKIDES: Thank you.

ARBITRATOR WERTHEIM: Did you have a plan figured out as to how you would have addressed the .25 problem, had you had enough data?

THE WITNESS: I am afraid I never focused on that. The issue never came up, given the task before me.

ARBITRATOR WERTHEIM: Wouldn't that be rather important, though, in view of your premise that dollars paid for the royalties on distant signals are a reliable measure of their value to the operator?

THE WITNESS: I could have conducted a separate analysis, I suppose of public television. There were no public television programs on the signals that I was analyzing here.

ARBITRATOR WERTHEIM: Well, how would the .25 be addressed by your premise?

MR. LANE: Excuse me. Excuse me, Judge Wertheim. Could I try a question?

ARBITRATOR WERTHEIM: Go right ahead.

MR. LANE: Thank you.

BY MR. LANE:

Q Dr. Besen, are you aware of what a DSE value is?

A Yes.

Q And is the DSE value for network

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affiliates .25 DSE?

A I frankly, don't remember any longer.

Q Assume that it is. Did you study network affiliates in your study?

A There were some network affiliates in the sample.

Q To the extent there were network affiliates in your study you also would have addressed the question of how to deal with the .25 DSE value?

A I guess, I never thought of it in those terms.

Q Because you just dealt with the royalties as they were actually paid, if they were paid for a .25 DSE value you would have counted that equally as if they were paid for the independent at a 1.0 DSE value.

A All I cared about was the actual change in royalty payments made by a cable operator when it added or deleted a distant signal.

It didn't make any difference to me whether it was -- I cared about the dollar amount, not the method by which it was derived.

MR. LANE: I don't know if that helped you, Judge Wertheim. Maybe it confused you more, but --

ARBITRATOR WERTHEIM: No. It helps. Thank you.

MR. LANE: Should I go on? Are there other questions?

CHAIRPERSON JIGANTI: You may proceed.

MR. LANE: Thank you.

BY MR. LANE:

Q To back to where you discussing how you, your basic statistical approach, I think you indicated that you measured percentage changes.

My question is why did you measure percentage changes rather than absolute changes?

A Well, cable systems come in all sizes, from very small ones to very large ones, and I wanted to essentially put them all on a common scale.

I wanted to ask, for example, when a cable system added a distant signal the dollar amount that it would have to pay for that would be much different if it was a small system than a large one.

So by putting all of the royalty changes in percentage terms I was able, in fact, to scale all of the cable systems to essentially the same size.

I didn't have to worry about disparities in the sizes of the systems.

Q So would it be fair to say that, in

effect, in your study, large systems are weighted in the same way as small systems?

A Each one is an individual variable in the analysis, excuse me, an individual observation in the analysis.

Q Could you give us a simple example of how your study works?

A The purpose of this chart is simply to illustrate the simplest form, what exactly -- how the analysis was conducted.

The actual analysis is more complicated, but it is a simple way to describe actually, essentially the conceptual basis for what went on.

As I have already indicated, I have information about the percentage change in copyright royalties for the cable systems that added or deleted distant signals.

I have information about -- and this example by the way -- I have confined the example to just two program categories, again for simplicity. They are movies and sports.

So, in this hypothetical I had information about the percentage change in the hours of movie programs when this cable system added a distant signal.

I have information on the percentage change in the hours of sports programs when the distant signal was added.

Just to remind us, the actual analysis was carried out with weighted hours, but I won't add that complication here.

So those are essentially the factors that go into the analysis, the change in royalties, the change in movies programming, and the change in sports programs, all defined in percentage terms.

Q And next you have what is called the estimating equation. Is that the same equation that is shown on page 14 of your testimony?

A It is.

MR. LANE: Mr. Chairman, I have copies of the chart that is on the easel. It is exactly the same.

I will be happy to hand them around if that is agreeable.

CHAIRPERSON JIGANTI: Yes. You might as well.

MR. LANE: Thank you. I am handing to the witness, to the panel, and to the parties, a copy of the same chart that is shown on the easel about which Dr. Besen has been speaking.

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It is pretty much the same as what is on page 14 of his testimony.

BY MR. LANE:

Q So you were just talking, were you not, about the top three lines of the text there, the R, M, and S lines?

A That is correct.

Q And those represent percentage changes?

A They are all in percentage changes. Correct.

Q Right, and when you gathered information, you gathered the Form 3 information about the royalties. Correct?

A Correct.

Q And then the movies and the hours information was from the studies from the Motion Picture Association?

A That is correct.

Q Okay, and then the next thing we see on the page is the estimating equation. Could you explain that for us, please.

A The task statistically is to -- as I said before, what I am trying to do is assign weights to the various components of the distant signal. So you can see there is a weight "A," which is the weight

assigned to movies and the weight "B" is the weight assigned to sports in this equation.

It turns out that because these variables are defined as percentage terms -- as percentage changes, "A" and "B" also turn out to be directly estimates of the shares that should be assigned to each of the, in this case, the two program claimants.

So by estimating "A" and "B" I can obtain estimates of the relative shares that should be assigned to movies and sports in this example.

ARBITRATOR FARMAKIDES: Do you have confidence, sir, in the use of percentages only in that equation?

THE WITNESS: I think that is by far the most sensible way to proceed here, for the reasons I have already indicated.

That is, using absolute numbers has this great problem of scale. Whereas two cable systems add the same distant signal, they may experience the same percentage increase in movies and sports programs, but in fact, if you are a big cable system you may have a very large dollar increase in your royalty payments, whereas, if you are a small cable system you have a smaller dollar increase.

Since I am after the relative shares, it

seems to me sensible to put them on a common scale. Percentage changes have lots of virtues, but one of the virtues is that it does that, and then as a corollary benefit you are actually able to directly get at the shares from the estimates.

The estimates that I get are, in fact, weights, which can be interpreted as or should be interpreted as shares.

ARBITRATOR FARMAKIDES: All right.

CHAIRPERSON JIGANTI: Mr. Lane. I guess there should be an exhibit number here. Even if you don't add it into evidence, for purposes of the record it is here.

MR. LANE: All right. Fine.

CHAIRPERSON JIGANTI: In examining the record there is a reference point.

MR. LANE: Okay. I don't know what exhibit number it should be. Why don't we just call it 1, I guess, at this stage, Program Supplier Exhibit 1, since all of the rest are Xs that we have.

That is good.

(Whereupon, the document referred to was marked for identification as Program Supplier Exhibit No. 1.)

BY MR. LANE:

Q Okay, moving down the chart, Dr. Besen, you have system 1 and system 2, with various numbers for the R, M, and S.

Could you explain what that was?

A Well, system 1, by the way, is the particular system referred to in the text of the testimony, just to make things simpler, and that simply says that system 1 experienced a 52 percent increase in its royalty payments, a 60 percent increase in its carriage of movies, and a 20 percent increase in its carriage of sports when it added a distant signal.

For system 2, which is not in the paper, this system experienced an 18-1/2 percent increase in royalty payments when it added a distant signal, but added 20 percent to its movie hours programming -- distant signal movie hours programming -- and 10 percent to its sports hours programming.

Q And then I take it, just below that where you have system 1 and system 2, that is the numerical expression of the equation that you have at the top of the chart?

A That is correct.

Q Okay, and then, now, it looks like when

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you solved for A and B, you get a number that is greater than 100 percent. Is that correct?

A First, let me say that the numbers I get here you can see, if you solve -- for the case with just two cable systems and two program categories, you can directly, numerically solve for the two weights, the As and the Bs and the shares, and if you solve those you will discover that the estimate of A is 75 percent, and the estimate of B is 35 percent, and yes indeed, those sum to more than one.

Q And just --

ARBITRATOR WERTHEIM: Excuse me.

MR. LANE: Sorry.

ARBITRATOR WERTHEIM: Wouldn't you get different A and B results for the two systems?

THE WITNESS: No. In the case where you have two systems and two program services, you in fact, get a single estimate.

In fact, what I do throughout the analysis is obtain a single number A and B that applies to all cable systems.

In this particular case, no. The A and B are -- this is simply two equations and two unknowns and there is actually just a unique value for A and B. It is the same for both systems.

They in fact, I assigned the same weight to M^1 (M prime), excuse me, to the percentage change in movies, the percentage change in sports, regardless of which system it is.

So I am --

ARBITRATOR FARMAKIDES: So when you add all of those up you get your final ranges that you set up before?

THE WITNESS: Those are the ranges from a whole set of detailed analyses. This is simply a sort of schematic of what I have done.

I think we will talk later in more detail about specifically how it was done.

Obviously, when it was done I took into account more program categories, all four program categories of interest here, besides movies and series, sports, devotional and local, and obviously, there were lots of other -- not just two cable systems but a large number, and in fact, in that particular case, I can't simply directly solve for A and B as a matter of algebra.

I have to do it statistically, and that is what I have done.

In answer to the earlier question, is the single value of A and B, or the equivalent, is

obtained for each of the estimates that I carried out, and the general range of the estimates are the ones provided over there. Correct.

ARBITRATOR WERTHEIM: In this particular example in the chart, resulting in a 68 percent share for movies and 32 percent for sports, departs fairly substantially from the total ranges that you have listed in the first chart. Does it not?

THE WITNESS: It does, but it is just a hypothetical. We just used these numbers. We had the numbers from the report, with another system, and we just solved them.

No importance should be attached to the numbers here. This is simply an illustration.

ARBITRATOR WERTHEIM: Thank you.

ARBITRATOR FARMAKIDES: Less importance, I thought that was --

THE WITNESS: Those are not real numbers. They are two hypothetical cable systems.

BY MR. LANE:

Q You have indicated that the results that you got were greater than 1. Did you transform those results?

A In this particular hypothetical, the numbers -- obviously 75 percent plus 35 percent sums

to 110 percent.

So what I did here, and what I have done throughout the analysis is adjust or transform the estimates of the shares that you get, the literal shares that you get, from the equations to numbers that in fact, sum to 1, because obviously the panel only has 100 percent to get out.

So this in fact, provides estimates of the relative shares, which are then transformed into absolute shares that sum to 100.

Q I see that the word "coefficient" appears down at the bottom of the chart, you say, "Scaling the coefficient." What are the coefficients?

A The coefficients are just the As and the Bs here.

Q All right. What do they stand for?

A The coefficient, A, for example, tells me the relationship between a given percentage change in movies programming and a given percentage change in royalty payments.

So that for example if the number for A is .75, that tells me that a 10 percent increase in movie hours is associated with a 7-1/2 percent increase in royalty payments, and 35 percent says that a 10 percent increase in sports program hours is associated

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with a 3-1/2 percent increase in royalty payments.

So they are just the As and the Bs, which again, should be thought of as estimates of shares to be assigned to the various claimants.

Q What periods did you analyze in your study?

A The period 1988 to 1992.

Q And how did you identify the cable systems?

A I indicated earlier, we asked Cable Data Corporation to identify Form 3 cable systems that had added or deleted a distant signal during the period 1988 to 1992.

When I say added or deleted I also mean to include instances in which the cable systems added one signal and deleted another.

I use the term added or deleted throughout there, but you should also understand that that also includes swaps of one long distance signal for another.

Q And this is explained on page 18 of your testimony?

A That is correct.

Q Were there possible data problems that you ran into?

A There were three kinds of data problems that we dealt with, and those are described on pages 20 and 21 of the testimony.

The first is that in a number of cases systems changed form during the period of analysis.

Even worse, they changed form during the period when they were adding or deleting a distance signal.

So what we did was simply delete all the observations when a form change occurred contemporaneously with a change in distant signals, simply to avoid the problem that some of the changes in royalty payments that we were observing were attributable not to the distant signal being added, but attributable to the change in status of the cable system.

So observations that involve contemporaneous form changes with the distant signal changes were deleted.

Q Do you mean by form changes, a change from a Form 1, 2 system to a Form 3 system?

A I think these are primarily Form 2 to 3, or vice versa.

The second issue that we dealt with was that there were a number of cable systems in the

sample that experienced very large changes in the basic subscriber rate during the period in which it was observed, also changing its distant signal complement.

There was a concern that in fact, something else was going on that was importantly affecting the cable system's revenues, and hence royalty payments, that were not being captured -- that were not solely ascribable to the distant -- or primarily ascribable to the distant signal change.

So we determined to delete, at least from the basic analysis, all observations in which the system experienced or reported a change in its basic subscriber rate of more than one dollar in real terms.

So that those observations were also deleted at the outset, and finally, there appeared to be some reporting problems in the data that was supplied to us of the following form: if you take what the cable system reports as its basic subscriber rate, and what the cable system reports as its number of subscribers, and multiply, you occasionally get a number that is different from the actual number that it reports for its total basic subscriber revenues.

These numbers ought to be roughly the same, price times number of customers.

When those were off by more than 20 percent, we were at least concerned about the quality of the data, and at least in the basic analysis that we conducted we deleted observations where there was a disparity between the product as calculated and the actual number report, if it exceeded 20 percent.

Q How did you measure program inputs?

A Program inputs were measured basically by taking program hours on the distant signals that the cable system carried.

We have the hours here, but the hours were weighted by viewing of programming in those categories.

So that program types that had higher than average viewing or were carried because they were more popular or because they were carried in time periods with high viewing, were effectively inflated given more -- I counted larger values than simply the hours for those programs that had high viewing per hour, and proportionally lower values for the hours for program types that had lower than average viewing per hour.

If you think of this as taking the hours, the hours that I talk about here, and you are weighting the hours by viewing.

So it is an attempt to get at the

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differences in the quality of programs or the differences in the time periods in which the programs are carried.

ARBITRATOR FARMAKIDES: Say that again, sir. Weighing the hours by viewing contrasted to weighing the hours by the size of the station, which is what you said earlier.

THE WITNESS: No. No. All of the variables here are in percentage terms. So let's go back.

Suppose we are talking about a cable system that adds a distant signal, and is already carrying some distant signals.

We could have simply said, "Well, it increased its sports hours by 10 percent, and it has increased its movie hours by 20 percent, and its devotional hours by 15 percent," or whatever.

It seems sensible not to treat every hour as being -- the hours with one kind of program to the hours of another as being homogeneous.

This is an adjustment across types of programs, and so in effect, it affords more weight in hour terms to program types that have more, higher than average viewing, and affords less weight to program types that have lower than average viewing.

So this is an adjustment no so much across cable systems, but across program types within the programs that are carried by given distant signal.

So it is an attempt to derive a weighting for that, not simply treating hours and hours and hours, but in fact, to make some sort of an adjustment to allow for differential viewing.

It is an attempt to deal with, to take into account --

ARBITRATOR FARMAKIDES: Three o'clock in the morning or --

THE WITNESS: Three o'clock in the morning or 8:00 at night is one, and the fact that some programs, clearly, even at 8:00 at night, some program types attain more viewing than other program types.

So that is taken into account.

ARBITRATOR FARMAKIDES: Thank you.

ARBITRATOR WERTHEIM: How did you determine what weights occurred in these different circumstances?

THE WITNESS: The weights are based, as I indicate in the statement, based on the surveys of viewing in cable households of the distant signals that in fact, I have analyzed.

So in fact, I have viewing data for all of

the distant signals in the analysis.

ARBITRATOR WERTHEIM: I understand that, but how did you decide how much weight to give? An hour of sports at 7:00 in the evening versus an hour of movies at 4:00 in the afternoon?

THE WITNESS: We have information on the aggregate viewing hours for each of the program types of a particular distant signal.

In effect, what I do is I take the total amount of hours on the distant signal, suppose the distant signal has 100 hours of programs, and the hours are divided in particular ways into different types of programs, some amount of local, some amount of sports, et cetera.

I have information on viewing from these surveys. In effect, what I do is I reallocate that 100 hours, assigning a larger proportion of the hours to those program categories that have above average viewing, and a smaller proportion of the hours --

ARBITRATOR WERTHEIM: I understand the principal, but mechanically how did you do it?

THE WITNESS: Do you want the formula?

ARBITRATOR WERTHEIM: Or an example. You say yourself that weighting has dramatic results.

THE WITNESS: I did not say the weighting

had dramatic results. In fact, I actually report here the fact that one gets essentially the same results in the weighting case than in the case in which we do no weighting at all.

That is actually not accurate. I am not sure if I can cook up an example for you now. I could try, but it may take more time than it is worth.

ARBITRATOR WERTHEIM: Well, that is up to you. I am looking at page 22 where you refer to the weighting and quality adjustment and you say, "The effect of this quality adjustment can be quite dramatic."

THE WITNESS: It can be dramatic in terms of the variables, not dramatic in terms of the results. I should distinguish those. In fact, in this particular example when the hours were reassigned because on this particular signal the -- actually on this particular system, when the quarter hours were reassigned, the hours assigned to sports were substantially more than the actual hours they had in programming, because for this particular system, the sports programs it carried had higher than average viewing.

So they got more than a proportionate share of the hours. It doesn't have a dramatic effect

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on the conclusions.

BY MR. LANE:

Q Dr. Besen, just looking at pages 22 and 23, there you had a situation where you had 13,440 quarter hours for that system. Correct?

A Correct.

Q And of those, only 730 quarter hours were related to sports programs.

A That is correct.

Q And then you took the viewing data and that viewing data indicated that sports got a higher percentage of viewing than it had hours. Correct?

A Correct.

Q And so you then multiplied the 13,440 by that higher percentage.

A Yes. That is correct.

Q And the result of that was instead of giving sports the 730 hours that it actually had, you weighted them at 738. Is that correct?

A That is correct.

Q And you did that for every other situation where you were weighting the hours by viewing?

A That is correct.

Q And sometimes the numbers would be higher than the actual hours of time. Sometimes they would

be lower.

A That is correct. All that was involved as a reallocation of the hours based on relative viewing.

ARBITRATOR FARMAKIDES: But Dr. Besen, you see the last sentence of that paragraph on the top of 23 is that by doing that you do that at the expense of the other programming channels.

THE WITNESS: Absolutely.

ARBITRATOR FARMAKIDES: You state that, and of course, what interests me is not only those categories, but also the Canadians and -- well, the Canadians you do not have factored in, nor do you have the public broadcasting stations.

THE WITNESS: Let me distinguish between two things, if I may. I think it is important to keep them separate.

One is the effect on the variables of interest, which is what this weighting is about.

The second is whether or not the weights make a substantial difference in the relative shares to be assigned, at least to the four claimants here.

I think the answer to the second question is that it doesn't. Nonetheless, I think it is appropriate to take into account the weights because one gets a more reliable estimate of what I have

referred to here as the inputs.

The effects are dramatic on the variables, but not with respect to the results.

You could do it with respect to just hours, and in fact, we report those in a footnote here, and it doesn't make a very substantial difference, at least among these four claimants.

ARBITRATOR FARMAKIDES: Thank you.

BY MR. LANE:

Q So in other words, what you are saying, even though for each individual observation you might change dramatically when you weight the viewing from the hours. Is that correct?

A That is correct. By the way, to be clearer again, remember these variables are in percentage change terms.

So the fact that you assign more weighted hours to particular program categories may not have a very substantial effect on their percentage changes to the extent that it affects all of the programs on both the signals they had previously been carrying, and the signals they had added.

These adjustment enter this calculation in a more complicated way than simply if I give more hours to somebody, he gets a bigger share of the pie.

It is not that straight forward.

MR. STEWART: Mr. Chairman?

CHAIRPERSON JIGANTI: Yes.

MR. STEWART: Might we have a reference to the footnote that Dr. Besen just referred to.

THE WITNESS: I think it is on page 24. I believe it is 36. I believe that is correct. I am not certain.

BY MR. LANE:

Q How many observations were there in your final data set?

A In the basic analysis, 208.

Q Could you summarize for us the basic statistical approach that you took.

A These are, in effect, the underpinnings of the basic analysis reported on page --

Q Twenty-three.

A Beginning on page 23.

MR. HESTER: Excuse me, Mr. Lane, do you have a copy of that table as well?

MR. LANE: I don't have any. It is on page 23. It is essentially the same.

BY MR. LANE:

Q Just go down the numbers.

A The program hours, program categories are

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1 defined in terms of weighted viewer hours.

2 Just as I have said, I have weighted the
3 hours by relative amounts of viewing. I analyzed the
4 percentage change in royalty payments in a given
5 period with the percentage changes in programs on the
6 distant signals carried by the cable operator in that
7 period. That is the second point.

8 Third, I have deleted all of the
9 observations in which the cable system had changed
10 forms during the same time period when it added or
11 deleted a distant signal.

12 I eliminated all observations in which the
13 basic rate changed by more than a dollar, and I
14 eliminated all observations in which there was this
15 disparity between the reported basic subscriber
16 revenues and the number that you would derive from
17 combining or multiply the basic subscriber rate and
18 the number of subscribers, and I estimated a single
19 relationship that was like combining all of the data
20 for the period 1988 to 1992 into a single equation,
21 that is 208 observations.

22 ARBITRATOR FARMAKIDES: Could I just
23 clarify one thing, sir. On item 3, your 20 percent
24 filter, how did you reach 20 percent? Why wasn't it
25 5 percent or 10 percent?

1 THE WITNESS: Twenty percent I believe is
2 the number that the parties sometimes use here as an
3 indication of a significant problem with the
4 underlying data.

5 I should add, however, that I have
6 conducted a separate analysis where the filter was as
7 high as 30 percent, and an analysis where I used no
8 filter at all, and the results seem essentially
9 impervious of those.

10 Twenty percent was a number apparently
11 based on the practices of the parties in assessing the
12 quality of the underlying data, but out of an
13 abundance of caution I did it for both a higher number
14 and essentially, no filter at all.

15 ARBITRATOR FARMAKIDES: Thank you.

16 BY MR. LANE:

17 Q What is it that you were seeking from your
18 analysis?

19 A I was trying to attain, as I indicated
20 earlier, estimates of the percentages of those As and
21 Bs in the previous calculation, in the earlier chart,
22 estimates of the shares that should be assigned by the
23 panel to each of the claimant parties, at least the
24 four claimant parties that I analyzed.

25 Q What are the results from the basic study?

1 A These results, which appear on page 27 of
2 the reported paper are here. In the basic analysis,
3 the estimate of the movies and series share is 85.5
4 percent; of the sports share, 7.7 percent; of the
5 devotional programming, 1.8 percent; and local
6 programming, 5 percent.

7 Q Now, were these the actual results from
8 the study?

9 A No, these were derived from the actual
10 results of the study.

11 Q And where are the actual results of the
12 study shown?

13 A They appear in table 1, which appears as
14 an attachment to the main report. They appear,
15 actually, in the first row of table 1.

16 Q And is that the row entitled "basic
17 equation?"

18 A That is correct.

19 Q Now, when I look across that row I see
20 there are some negative numbers. What do they mean?

21 A Taken literally they would imply that
22 those claimants ought to be paying money into the pool
23 rather than extracting money from it.

24 A better interpretation is that, in fact,
25 those numbers are -- appear to be not different from

1 different zero.

2 They are not statistically different from
3 zero.

4 Q Did you transform those numbers into
5 positive numbers?

6 A I did.

7 Q How did you do that?

8 A Well, these numbers are both small, and
9 apparently estimated somewhat imprecisely, and as a --
10 in order to try to overcome the possible imprecision
11 of those estimates, and in a sense, to be generous to
12 those two sets of claimants, I took the estimates
13 here, which are these negative numbers, and calculated
14 a generous upper bound for what the share of those
15 parties might be, and so I began by taking the number,
16 the estimate for devotional or local programs, taking
17 the standard error of those estimates, which was an
18 error of the precision of those estimates, and in
19 effect, giving each of them two standard errors in
20 addition to the actual estimate here, which provides
21 a kind of upper bound of the likely share that should
22 be assigned to those parties.

23 So I began by doing that.

24 Q And did that change them to positive
25 numbers?

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A Those both changed to positive numbers when I did that.

Q Okay. Now, when I look across the chart it does not appear to add up to 100 percent.

A That is correct.

Q Did you also transform the numbers so that they added to 100 percent?

A I did. You may recall from the earlier chart where I had the -- in my example the numbers were 75 percent and 35 percent. Then I transformed them so that they were 68 and 32 percent.

Well, of course, since I didn't constrain these estimates statistically to equal one, I had to transform them so in fact they were numbers that would be useful to the panel.

So I transformed them after making the adjustments to the devotional and local program claimants, so that the total summed to 1, and those numbers are the ones represented here.

Q And also --

ARBITRATOR WERTHEIM: Excuse me.

MR. LANE: Sorry.

ARBITRATOR WERTHEIM: The table on page 27 of your testimony where you describe your results. Are those figures -- do they represent the whole five

year period or just a three year period or any year?

THE WITNESS: It is a single number intended to be applied to all years.

ARBITRATOR WERTHEIM: All years?

THE WITNESS: Yes. In fact, in this particular case it is based on data from the entire period 1988 to 1992.

As you may note, there is a separate analysis conducted with using data only for 1990 to 1992.

ARBITRATOR WERTHEIM: That is from the next to the last line of your table 1?

THE WITNESS: I believe that is correct. Yes.

ARBITRATOR WERTHEIM: But you haven't integrated them into the final percentage figures you have on page 27.

THE WITNESS: They are. They are actually transformed someplace else. They are transformed on page 32.

MR. LANE: Also, are they not on table 2?

THE WITNESS: Yes. They are in table 2 and page 32 as well. Page 32 talks about the analysis confined to data from the period 1990 to 1992, and those are the estimates on page -- the statistical

estimates are on the next to the last row in table 1.

The transformed results are on page 27, and also appear in table 2.

ARBITRATOR WERTHEIM: Those numbers on page 32 differ rather substantially from those on page 27. Do they not?

THE WITNESS: Some differ somewhat. It depends on what you want to focus on. I think if you want --

ARBITRATOR WERTHEIM: There is as much as a 6 percent difference, for example, in movies and series, and at 5 million dollars a point, that is quite a big difference.

THE WITNESS: I appreciate that fact.

ARBITRATOR WERTHEIM: Does that suggest that if you had different figures for each year we would see further variations?

THE WITNESS: We conducted an analysis that did take into account some differences across years, and again, the results don't appear very different either from those.

Again, it depends I suppose, on what you mean by "very different."

In fact, from my perspective these results are remarkably consistent across periods and

techniques.

Let's see. I don't want to jump ahead here, but if you look at --

ARBITRATOR WERTHEIM: For example, if you look at the share attributable to local, between .05 and .007. In percentage terms that is quite a big variation.

THE WITNESS: I appreciate that fact. That is correct. It is. The estimates for local and devotional are the least precise of all of the estimates here.

I think that reflects the fact that we are looking for a very small effect out of lots of other things that are going on.

What it means to me is those shares are certainly small. Precisely how small depends on which particular technique or approach one takes, but in any event, those numbers are going to be small.

They could be as small as zero. They could be somewhat higher.

The reason for not presenting you with a single set of estimates was to make clear to you that in fact there are some variations when one applies different techniques.

I don't want to hide the ball here. On

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1 the other hand, for many important purposes here, the
2 results are remarkably stable.
3 For example, the share for movies and
4 series claimants is always statistically significant,
5 highly so, and inevitably results in shares that
6 exceed 80 percent.
7 That is a result that is very significant
8 and substantial across all of the equations.
9 The result that the sports claimants get
10 a substantially lower share than the movies and series
11 claimants is a result that is remarkably consistent
12 across them, but you are right, if we are talking
13 about a percentage point change here or there, there
14 are in fact some, what I regard as small differences,
15 it depends on what you use by "small," across the
16 various techniques.
17 The reason for presenting you with an
18 array of results is that you ought to see that there
19 is an array of results.
20 I don't think that they are that
21 different, at least in many important respects they
22 are remarkably consistent.
23 ARBITRATOR FARMAKIDES: My problem
24 parallels that of Judge Wertheim. Table 2 on page --
25 well, it is the same table that you have there on the

1 board.
2 You show 100 percent, but you exclude the
3 Public Broadcasting System, and you exclude the
4 Canadians.
5 To me, that would indicate a discrepancy
6 with that entire chart, the entire process, because
7 you know that the Canadians and the Public
8 Broadcasting are two additional categories of
9 claimants.
10 THE WITNESS: I think the way to think
11 about this is that -- my advise to the panel, for what
12 it is worth, is that you have to decide on those
13 claimants shares by some other means, but that in
14 fact,t his tells you about the relative shares that
15 should be assigned to these four parties in whatever
16 part of the pool is left after making whatever
17 assignments to Canadian and Public Broadcasters you
18 choose to make.
19 This doesn't provide you guidance on that
20 score. It provides you guidance about the relative
21 shares to be assigned to movies, series claimants,
22 sports claimants, devotional claimants, and local
23 claimants, and I think it is a very good job of doing
24 that.
25 It is about those relative shares.

1 ARBITRATOR FARMAKIDES: Do you think it is
2 possible to carve out a piece of the total pie, if you
3 will, for Canadian claimants alone? Or for the PBS
4 claimants alone?
5 THE WITNESS: I don't know what you mean
6 by that, exactly.
7 ARBITRATOR FARMAKIDES: In other words,
8 the witnesses, in one of the documents that has been
9 submitted to us, the Canadians claim that perhaps the
10 monies paid, which is basically your idea, your
11 concept as well, the monies -- what you attempted to
12 do was to evaluate the behavior of cable operators.
13 THE WITNESS: Exactly.
14 ARBITRATOR FARMAKIDES: And they were
15 suggesting that one technique would be to assess how
16 much money was paid in order to obtain a Canadian
17 signal, or in the other case, the PBS signal, and then
18 make an award based on that.
19 Is that possible?
20 THE WITNESS: I think it is possible. I
21 must admit I haven't thought much about the Canadian
22 issue. So I am really not particularly well equipped
23 to provide an answer to you, but I think you are going
24 to have to assign shares to them, and to public
25 television, through some other means than this.

1 What this tells you, however, and I think
2 it is important, not unimportant, what we are talking
3 about here is what after all, are the major claimants.
4 This is telling you a lot about the
5 relative shares that should be assigned to these four
6 claimants, and that is how you should interpret this.
7 ARBITRATOR FARMAKIDES: Thank you, sir.
8 CHAIRPERSON JIGANTI: Mr. Lane, how much
9 longer do you expect to --
10 MR. LANE: If we take a break, it would be
11 helpful, because a lot of the questions we may have
12 already gone over.
13 CHAIRPERSON JIGANTI: All right. We will
14 take a 10 minute break.
15 MR. LANE: Thank you.
16 (Whereupon, the proceedings were recessed
17 for 16 minutes from 10:45 a.m. to 11:01 a.m.)
18 CHAIRPERSON JIGANTI: You may proceed, Mr.
19 Lane.
20 BY MR. LANE:
21 Q Thank you. Dr. Besen, I would like to
22 turn back to page 27, or actually, why don't we just
23 look at table 1 and table 2.
24 You have been referring to the basic
25 equation. Right?

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A Correct.

Q And the results for that. Is there a way to test those results to see whether they are sensitive or not?

A Yes.

Q How would you do that?

A You can do that by essentially varying some of the underlying premises of the analysis and see what -- the extent to which those change any of the results.

Q And, did you in fact, do this?

A Yes. We did.

Q And are the results of those different analysis shown on tables 1 and 2?

A That is correct.

Q Without going through each of them, can you just tell us, in general, what you do to test for sensitivity?

A Well, it might just be useful to go over the example that was already referred to here.

We examined whether or not the results were different if we confined the analysis to the period of 1990 to 1992 as compared to doing it for the entire period, 1988 to 1992.

So that involves a comparison of the first

row of table 1, and the next to the last row of table 1.

That is an example of a sensitivity analysis. Another one is, I guess, raised by a question earlier, why 20 percent is the filter.

We also tried 30 percent as the filter, for example, and that resulted in the inclusion of some observations that were deleted in the basic equation, and that is reported in the third row of table 1.

Again, we can see there is not much difference on the effect of doing that on the overall findings.

Q So one way of looking at this, in the first row of table 1 we see in parentheses (n=208) in the first -- for the basic equation.

What does that mean?

A It means there were 208 observations. Two hundred and eight separate instances of deletes or adds or drops of distant signals by cable operators during the period 1988 to 1992 that were analyzed.

Q So when you made the different assumptions it changed the number of observations?

A In some cases it did, not always. Some of the modifications were of a different type.

Q And that would be one way to look, for example, in 1990 to 1992, the change meant that instead of 208 you had 130 observations?

A That is correct. There apparently were something like 70 observations for the period 1988/1989.

Q And from your standpoint, from a statistical sense, do these various different analysis show consistency?

A Yes. They do.

Q And can you explain why they show consistency?

A There are a couple of examples. There are several instances in which that is the cases. For all but the last row, the devotional, and this is table 1, the devotional and local estimated shares are always negative, in fact, never significantly different from zero.

Q The sports share always ends up somewhere in between those number and the numbers for movies and series.

The number for movies and series is always very much larger than that for sports, and that is consistent and always highly significant in all of the equations that were estimated, so that that is another

example or way in which the results were consistent for the various types of analysis conducted.

A Can you draw any conclusions from this consistency of results?

Q Yes.

A What conclusions?

Q The main result that one is to draw, is that the share, and I have sort of indicated this on the table over on the far side, that regardless of the method of analysis that one employs, the share that is assigned to movies and series is at least 80 percent, and conceivably, substantially higher than 80 percent.

The shares for devotional and local programming are probably very small, conceivably as low as zero, but conceivably somewhat larger than that, and the number for sports is somewhere in the range of 5 to 10 percent, and that is a result that shows more or less consistently.

ARBITRATOR WERTHEIM: What is it that sets the range shown on that chart? Is that range from one year to another or a range according to one variable to another?

MR. LANE: If you look at page --

THE WITNESS: Yes. It is the range of one technique over another, if you like.

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Table 2 reports six different kinds of analysis, six different variations. Six different types of sensitivity analysis, the basic equation in five variations of that, and the range reported there simply goes from the lowest to the highest number, across those rows.

They are not numbers that are -- the highest are not the ones that are -- they are the highest and the lowest numbers in each of the rows in table 2. So they are the highest and the lowest estimates.

Q And is table 2 a transformation of the numbers that are shown in table 1?

A Yes. Table 1 was produced exactly the same way that each of the individual share results in the text of the paper were done.

That is, the negative numbers were transformed to positive ones, and then everything was rescaled to 100 percent.

So they are the same thing.

ARBITRATOR WERTHEIM: And what is the Factbook analysis in the last column on the right?

THE WITNESS: It is a little hard to explain but one of the questions that we focused on was whether or not there were significant,

contemporaneous changes in non-distant signal programming on the cable systems we were analyzing.

We found some statistical relationship, but we could only do this for a relative handful of observations, because the information from the Factbook, which is our data source, did not contain very good and timely information about the distant signal -- excuse me, the programming line ups, of the various cable systems.

What we did there is take those observations, I think there were 35 of them, for which we could get good data on the non-distant signal programming on the cable systems, and included information about the other programming, changes in other programming on those cable systems during the period when those cable systems were also adding or deleting distant signals.

So those other changes in other program categories were included as additional variables in the analysis.

So in effect, we controlled for them, and then estimated the shares for each of the various claimant groups, taking into account the changes in programming of other program services, and those are the results that appear in the last column of table 2.

ARBITRATOR WERTHEIM: And is the Factbook some kind of publication?

THE WITNESS: The Factbook is a fairly standard industry reference that contains, among other things, information about cable systems and their program line ups.

Unfortunately, the Factbook does not always have regular, up to date reports on the actual program line ups of cable systems, and as a consequence, we could not conduct this analysis for all of the cable systems in the sample.

The Factbook analysis is our shorthand for using data from the Factbook as additional explanatory variables.

ARBITRATOR WERTHEIM: Who publishes that book?

THE WITNESS: I think it may be Warren Publishing, but I am not certain.

ARBITRATOR WERTHEIM: Privately published?

THE WITNESS: Privately published, yes.

ARBITRATOR FARMAKIDES: Did you note how many cable systems were actually in your sample?

THE WITNESS: I think the answer is out of the 208, I believe 171 different systems.

That is, some cable systems appear more

than once because they have an add and a drop in more than one year.

CHAIRPERSON JIGANTI: Dr. Besen, in table 1, column 2, movies and series, the fifth one down, it shows the number 1.19 that doesn't conform to table 2, which is .91.

THE WITNESS: Well, remember, these have to be rescaled so they sum to 100 percent.

So the first thing we did there was to take the two negative numbers for devotional and local, transform them to make them positive, now of course, the numbers exceed 100 percent by even more than they do by using the raw numbers, and just as I did in the illustration, where the numbers exceeded 100 percent, I had to transform them down so 75 became 68, and 35 became 32.

The apparent 119 percent, when all of the shares are reduced proportionally so they just sum to 100 percent, that reduces that number to whatever it says here, 91-1/2 percent.

CHAIRPERSON JIGANTI: So that 1.19 becomes 91-1/2 percent?

THE WITNESS: You have to take 1.19 and .083, those are those first two numbers. The other two numbers, the negative .0017 and the negative

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.0624, we take those numbers and add two standard deviations to them, the standard deviations don't appear here specifically.

So they are then made positive numbers. So now I have a positive number for all four of them. They sum to more than 100 percent. So then I rescale them so they just equal 100 percent.

CHAIRPERSON JIGANTI: Well, if you did that in all of those, just glancing at it, there is virtually no effect.

THE WITNESS: No effect of --

CHAIRPERSON JIGANTI: Your first one there is 86 percent. You have negative numbers for devotionals and local, and you still come out on your chart here with 85.5 percent, and it is similar for all of the first four categories there.

Basic equation time effects, 30 percent receipts, no greater receipt filter, and then when you come down to the 90/92 only, you get such a dramatic difference in the numbers.

THE WITNESS: I am sorry, you are worried that 90 to 92 is a number that is much higher than the others?

CHAIRPERSON JIGANTI: The entire numbers and your explanation explaining how you factored that

down to a number no more than 100 percent, it seems to me so dramatically different than --

THE WITNESS: There are two separate issues. One is I think I accurately ascribed the mechanical way we got the numbers down to 100 percent.

CHAIRPERSON JIGANTI: I don't have any doubt that you did it. I just don't understand it.

THE WITNESS: The reason that it is 91 percent here is in effect because the estimated co-efficient using the 1990 to 1992 data, estimated weight for movies and series programs is, in fact, much higher for the analysis using 1990 to 1992 data than it is for one using the whole period, 1988 to 1992.

That is, in fact, the case. This reflects the fact that instead of estimating .86, as I did in the first equation, I estimated 1.19 for it.

So it is not surprising that that translates, after I have done my transformations, into a higher share in table 2.

CHAIRPERSON JIGANTI: Okay.

ARBITRATOR WERTHEIM: Before you do that transformation, you add for 1990/1992, the movies and series, their share was 119 percent of the whole excluding PBS and Canadians.

THE WITNESS: Taken literally.

ARBITRATOR WERTHEIM: Well, doesn't that cast some doubt on the reliability of this methodology?

THE WITNESS: No. Not at all. Everyone knows that in a statistical analysis every one of these estimates is measured with some statistical error.

In fact, the purpose of reporting these T-statistics here, which are the parenthetical numbers that appear below movies and series, in fact is to give some idea of the reliability of those numbers.

I think what this is telling you is that the movies and series share is, in fact, very high.

Is it precisely 119 percent? Well, surely not, but it surely, by all of these calculations, 80 percent or higher, regardless of how one does the analysis, and that result is quite consistent.

ARBITRATOR WERTHEIM: And what is the meaning of the 6.15 figure in parentheses straight under that?

THE WITNESS: That is something called the T-statistic, which is a measure of the ratio of that co-efficient to its standard error, and 6 is a number that says that this is a number that is significantly

different from zero, with an enormously high probability.

That is, the deviation of this estimate from zero is enormous and could not easily be explained by chance.

I think the way you should interpret this is that this is a very high number. That is a high number --

ARBITRATOR WERTHEIM: Is this 6.15, that is your regression analysis category?

THE WITNESS: No. The regression analysis, the regression coefficient, the equivalence of the As and the Bs in the earlier table is the 1.194. All right.

In this particular calculation here there were only two cable systems and only two program categories.

So in fact, when I calculated these numbers, I can just do it by solving those two equations, and you will see those numbers just make those equations fit perfectly.

They are exactly -- once you put those weights in you get an exact prediction of the percentage increase in royalty payments.

When you do this for a large number of

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cable systems -- so there are many more cable systems than there are program categories, in fact, you are doing this statistically.

You are trying to do the best you can to fit an equation to a large amount of data, and the data tries its best to do the best job of fitting that equation to the data that it has, the data that it has here about royalty payments and the various program categories.

ARBITRATOR WERTHEIM: So this 6.15 is not a standard deviation figure?

THE WITNESS: It is actually the ratio of the coefficient to its standard error. To give you some idea, a good number here is a number, by conventional statistical techniques, a good number there, one that would give you some idea that that was a significant factor, would be 1.96. This is 6. This is almost off the chart.

So clearly, this is showing you the effect for movies and series is large and statistically significant in every one of the equations analyzed here.

You can't say that about any of the other categories. Some, in fact, are indistinguishable from zero on a quite regular basis, and sports is somewhere

in between.

ARBITRATOR WERTHEIM: But where do we see here a measurement for range of error?

THE WITNESS: Well, if you went backwards and transformed this you could take the coefficient, divide by X, and that will give you 6.15.

So if you solve for X, you could get the standard deviation.

Some people report the standard errors of the estimates. Some people report the T-statistics. We happen to be in the school of thought that likes to report T-statistics, and that is what we did here.

The standard error is implicit in that T-statistic.

ARBITRATOR WERTHEIM: That doesn't show us whether the 119 percent is a plus or minus 2 percent, 10 percent, or 20 percent.

THE WITNESS: You can infer that from this.

ARBITRATOR WERTHEIM: Maybe you can, but I don't.

THE WITNESS: The standard deviation, I am not sure. This is 6. The standard deviation must be, I suppose this is around .1, .2. The standard deviation is -- this has a standard error of about .2,

I believe. Yes. That is correct. Roughly speaking, the standard error is about .2.

ARBITRATOR WERTHEIM: Thank you.

MR. LANE: Judge Wertheim, just to follow up on one of your earlier questions, pages from the Factbook were included, for example -- and it may be in other places too -- in JSC Exhibits 8-X and 9-X.

So if you wanted to see what the Factbook looked like, there are a couple of pages there.

ARBITRATOR WERTHEIM: Thank you.

BY MR. LANE:

Q Dr. Besen, I would like to just turn back to Judge Jiganti's question. When I look across the basic equation, if I transform the devotional and local to positive numbers, and I added up those numbers, I would get a number that is relatively close to 100 percent. Right?

A Probably, relatively close to 100 percent.

Q So when I was making -- when I was doing what you call scaling the coefficient on program suppliers exhibit 1, when I divided the movies and series, I would come up with a number, as you did, that is relatively close to -- in other words, table 1, has 86.28, and table 2 has 85.5.

A Right, and that suggests that in fact, as

you indicate, the coefficient is -- after the transformations of the negative coefficients -- sum to approximately 1.

Q And it is the same situation occurs, does it not, for the next three instances on table 1?

A Certainly the next two. The last -- no filter may, in fact, be a little different since it gets .89 versus .84, but they are approximately the same.

Q Right, and so then when you got the 90 to 92, that one is one where the scaling is different because you are scaling actually from a number that is like 125 percent or something?

A It is clearly some number that exceeds 127 because the other two will have to be made positive. That is correct.

Q And that is why you would transform from 119 on table 1 down to 91 percent?

A Right. That is the mechanics of doing it.

Q Now, did the systems that you measured in your analysis differ from Form 3 systems in general?

A They seemed fairly similar in characteristics to the universe of all Form 3 systems.

Q How did you determine that?

A If you look at table 3, which is the last

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table in the report, the last page, we compared the sample observations with the universe of Form 3 systems, with respect to four characteristics: the basic rate, the number of subscribers, the number of broadcast signals, and the number of distant signals.

You can see, while there is some differences, the numbers are relatively close, which suggests to me that in fact, the set of -- there is nothing apparently unusual about the set of systems that, in fact, we used to conduct the analysis.

Q What conclusions would you want the panel to draw from your analysis?

A Well, I guess the first is that it does make a difference to use real world behavior as opposed to answering hypothetical questions about cable operator behavior.

That in fact, if one does an analysis that is based on the behavior of cable operators, that one gets a consistently high share of the royalty payments that should be attributable or assigned to the movies and series claimants.

A number that, the lowest number we get is on the order of 82 percent. It could be as high as 92 percent.

In fact, those results are robust and

consistent across a range of techniques for conducting the analysis, and we provided you an array of different ways in which the analysis is conducted, and from my perspective the very strong result comes through that in fact, the movies and series share is clearly an important factor, clearly the most important factor in determining the value of the distant signals that cable operators choose to carry, and in fact, that implies that the cable operator share should be, at a minimum, 80 percent, and perhaps substantially in excess of that.

Q You meant the movies share, not the cable operator's share.

A I am sorry, movies and series. I am sorry. Yes. Exactly.

MR. LANE: Those are all the questions I have at this time.

CHAIRPERSON JIGANTI: Thank you, counsel.

MR. NEIMAN: Let me just get my stuff together here.

CHAIRPERSON JIGANTI: Take your time, Mr. Neiman.

CROSS-EXAMINATION

BY MR. NEIMAN:

Q Hello again, Dr. Besen.

A Hello.

Q The goal of this study was to measure the relative value of the different categories of distant signal programs to cable operators.

A Correct, in order to assign shares to them.

Q That is what MPAA asked you to do, was to develop such a study?

A Correct.

Q And to do that you put together this regression analysis?

A That is correct.

Q And you looked at two sets of data. Right?

A Well --

Q The first set of data that you looked at was the royalty payments made by cable operators?

A Correct.

Q And the second thing you looked at was the program composition on the signals that were carried by cable operators.

A That is correct.

Q And when you say program composition you don't mean the number of hours of each category of programming on those distant signals. Right?

A Hours weighted by viewing.

Q Right. You weighted the hours of each category of programming?

A That is correct.

Q And the purpose of doing that was to take into account differences in program quality?

A Essentially. That is correct.

Q And by quality you meant --

A I should restate that. I mean the quality in quotes, as sort of an attractiveness or value to the cable operator.

Q Correct. So you meant by quality, attractiveness or value to the cable operator?

A Correct.

Q And the thing that you chose to measure value in this quality weighting was viewing. Right?

A I adjusted the hour data by viewing. Correct.

Q That is the thing you chose to do your quality weighting?

A Correct.

Q So you chose to do quality weighting which you describe as the value to cable operators, by viewing?

A I think I answered that. Yes.

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Q It is a basic premise of your analysis, is that that is appropriate.

A That is correct. Although, I should say that in fact, the results don't differ very much if one looks just at hours.

Q You mention that Dr. Besen. Could you point out in your testimony where you did that?

A I think it actually may not be referred to here, but it was, in fact, conducted.

Q So you haven't reported those results?

A I don't believe that is in here, as I recall. I was unable to find it. That is correct.

Q Of course, it is important if you are going to weight by something, to choose something that actually measures value. Right?

A That is correct.

Q If you choose something that doesn't measure value to weight your analysis, that is going to effect the results of your analysis. Right.

A It depends on how it fails to do so.

Q Well, if it did so in a biased way, that would affect the results of your analysis. Right?

A It would depend on how the bias occurred. Yes.

Q It could affect your analysis though,

right?

A You would have to describe to me the circumstances in which -- I mean it is a question that is too general.

Q Well, it was important to you to choose an accurate method of weighting by quality. Right?

A I looked for an accurate method.

Q Right.

A It is a separate issue as to whether it biases the results.

Q I understand that, but you wanted to use the most accurate method that you could.

A I tried to. Yes.

Q And the basic premise of your analysis is that the most accurate way to do that is to weight by viewing. Right?

A I would not say it is a basic premise. I weighted by viewing.

Q That is what you did.

A Correct.

Q And you don't know whether -- strike that.

It is possible that if that basic premise, that weighting that you did, was inappropriate, that could affect the results of your analysis.

A It would depend on what you mean by the

basic premise being inappropriate.

Q Suppose that by weighting by viewing you accorded too much value to one category of programming, then what other evidence suggests that cable operators accorded to that category of programming.

A The weighting enters here in a reasonably subtle way. It is weighting hours in a calculation that also includes percentage changes.

So at the level of generality of your question, I don't think I can answer it in either the affirmative or the negative.

Q So you can't exclude the possibility that it included a bias?

A Well --

Q If you can't answer it, you can't exclude it. Right?

A No. You haven't posed a question that makes it clear as to what it is you are getting at.

Q We will circle back to this.

A Fine.

Q But the thing that you chose was viewing, and the viewing data that you used was provided to you by MPAA.

A That is correct.

Q And you weren't involved in gathering that viewing data.

A That is correct.

Q And you haven't verified that viewing data?

A No. That is correct.

Q And you understand that MPAA and Nielsen together compiled that viewing data.

A That is what I understand.

Q And they did that, you understand, from diary studies.

A That is correct.

Q And they didn't provide you with the results of Peoplemeter studies.

A That is correct.

Q All right, but you wanted your analysis to be as accurate as possible. Right?

A Always.

Q And it is important to use the best data that you can get.

A Of course.

Q So you wanted to have the best viewing data that you could get?

A Yes. I want the best of all data that I can get. Always.

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Q Sure, and if the viewing data that you got systematically undercounted one kind of viewing or another, that could affect the accuracy of your analysis.

A Actually, if it systematically undercounted one category or another, it wouldn't affect the analysis.

Q So, if it counted one tenth of the viewing of sports, that wouldn't affect your analysis?

A That is correct.

Q If it gave ten times too much viewing to sports, that wouldn't affect your analysis?

A That is actually correct.

Q That is a mechanical effect of the percentage changes. Right?

A Look at the percentage changes if, in fact, you have overestimated sports viewing by 10 percent everywhere, the percentage changes would be unaffected.

Q Of course, that is if it is exactly 10 percent everywhere. Right?

A That is the example you gave me.

Q I am with you, Dr. Besen, but if it were, you know, sometimes it was 6 percent, sometimes it was 12 percent, sometimes it was 20 percent, but the

average was 10 percent. That could affect your analysis. Right?

A It doesn't necessarily bias any of the results.

Q Not necessarily.

A Correct.

Q In these viewing numbers that MPAA gave you. These were from the diary studies. Right?

A Did I answer that question already?

Q Yes. You did, and you used the 6-cycle diary studies?

A Where they were available. Yes.

MR. NEIMAN: I would like this marked as JSC Exhibit 13-X.

Your Honor, I have to apologize because some of the data in this exhibit comes from the Peoplemeter study, and you really can't confirm the accuracy of that data from the -- but it is here, for what it is worth.

(Whereupon, the document referred to was marked for identification as Joint Sports Claimant's Exhibit No. 13-X.)

BY MR. NEIMAN:

Q Do you have 13-X in front of you, sir?

A It is not marked with a number.

Q Well, you can mark it if you like. I never know beforehand what the numbers are going to turn out to be.

A I understand. I thought you would have marked it, but that is all right.

Q Now, Exhibit 13-X, the middle line, 6-cycle diary study. That is what you used, if you had the data. Correct?

A Right.

Q What we have shown here on the first two lines, sir, are WGN viewing as reported in the 6-cycle diary study, as reported in the 4-cycle diary study, as reported in the 4-cycle Peoplemeter study for 1990.

Do you see that?

A I do.

Q And you see that the sports share in the 6-cycle diary study that you used for WGN was 23.94 percent.

A Yes.

Q And that the sports share in the 4-cycle diary study that you did not use is 30 percent. Do you see that?

A I see it.

Q And that in the 4-cycle Peoplemeter study,

the viewing share of WGN was 20.76 percent.

A I see that.

Q Now, in this 6-cycle diary study that you were using, that provided the information about the total viewing to each category of distant signal programming. Right?

A Correct.

Q And by total viewing, you mean viewing across the whole country. Right?

A In cable households.

Q So it is cable households in Maine. It is cable households in Iowa. Right?

A Correct.

Q And everywhere else.

A And everywhere else.

Q And you didn't have data on, you know, just the viewing of cable households in Iowa?

A That is correct.

Q And that is the viewing data that you used to weight program hours for every cable operator in your study?

A That is correct.

Q So for a cable operator in Iowa you weighted by viewing hours, you were using national viewing hours.

A I was using the viewing hours from WGN in all cable households.

Q Nationally.

A Nationally, right.

Q Now, it is possible, isn't it, that viewing hours to, say, sports on WGN in Iowa where there are a lot of Cub fans, would be higher than the viewing hours to sports in WGN in Maine. Right?

MR. LANE: I object to the question. No foundation.

CHAIRPERSON JIGANTI: Overruled.

THE WITNESS: I suppose it is possible.

BY MR. NEIMAN:

Q So it is possible that the viewing that you use as the quality weight in Maine is going to be different from the viewing in Iowa.

A I am not sure I understand the question.

Q I will take it one step at a time. You use viewing as a measure of value to the cable operator. Right?

A It is a measure of quality based on viewing in cable households nationwide.

Q And you said that by quality you meant value to the cable operator. Right?

A Correct.

Q And so what you mean by value to a cable operator in Iowa is viewing all over the country. Right?

A The information I had about WGN is information about viewing of WGN in cable households throughout the country.

Q So to determine the value to the cable operator in Iowa of WGN you used viewing all over the country?

A I think I already answered that.

Q You answered it yes.

A Should I answer it again?

Q The record speaks for itself, sir. Let's talk a little bit more about how you did this weighting. I am not sure it is entirely clear.

Suppose we have for WGN, we will stick to that for simplicity, and we have the total hours of each category of programming.

Let's suppose that sports is 20; movies and series, 50; devotional, 15; and local, 15. Making up the numbers for the total hours in each of those categories.

A Right. So there are 100 hours total.

Q So total hours on WGN equals 100.

A Correct.

Q And suppose there is a viewing on WGN to sports is 30. Thirty percent of the total viewing on WGN is sports.

For movies let's suppose it is 55, for devotional it is 10. What do I have left? Five for local.

What you would do is you would say, "Okay, we know that the viewing of sports is 30 percent on WGN." Right? And you would multiply that 30 percent times the 100 total. Right?

A That is correct.

Q And you would get a number then of 30. This would be the weighted hours, if anybody can see this and read it.

A Correct.

Q So you would get 30 for sports, and you would get 55 for movies, and you would get 10 for devotionals, and five for locals. Right?

A Just to be clear for the panel, it is an artifact, of course, of the 100 total hours, but that is fine.

Q That is absolutely right. If this were 200 hours, then you would get 60, 110 and so on.

A No problem.

Q And that is what you did to weight it?

A Correct.

Q And that is something that you developed for us in this analysis. Correct? That weighting?

A Correct.

Q Nielsen doesn't report those weighted hour numbers.

A That is actually correct.

Q And cable operators can't look into the Nielsen book and see those weighted hours when they are making their decisions?

A The might know something about the viewing on WGN throughout the U.S., and they may know something about the mix of programming on WGN.

Q But they wouldn't have those weighted hours numbers. Right?

A They could calculate them.

Q All right. They would have to do that, though.

A Just like they have to weight lots of other things.

Q Sure. Again, in terms of what is in that viewing study, there is no network programming in the viewing study you used. Right?

A I am not sure that is right. I am not certain.

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Q You are not certain?

ARBITRATOR WERTHEIM: Excuse me, can we go back to this chart. The way the figures add up here, you don't even need to know what the actual total hours would be.

If they have 30 percent of the viewing, you give the 30 percent of the hours.

THE WITNESS: We have to know how many hours there are. For example, if there were a different number of hours across different distant signals, that would make a difference.

ARBITRATOR WERTHEIM: Right, but whatever the number of hours are, you multiply that by the program category share of viewing.

Is that right?

THE WITNESS: Whatever the number of hours are multiplied by that category of viewing. That is correct.

ARBITRATOR WERTHEIM: And in order to do that you don't even need to know what the actual total hours of viewing were.

THE WITNESS: Well, you need to know --

ARBITRATOR WERTHEIM: That doesn't figure into the calculation.

THE WITNESS: Except that they are

determinants of the percentages, but those percentages come to us in percentage terms. That is correct.

We actually -- that is correct. In his example, we actually get the hours. In his examples, the hours and the percentages are the same.

We actually get the total hours. So we actually have to calculate the percentages.

These numbers are not 30, 55, 10, and 5. They are 3,000, 55,000, et cetera. So they have to be transformed into percentages in order to do the calculation.

The reason this worked so simply here is that my friend here has been kind enough to do everything in terms of a hundred hours.

ARBITRATOR WERTHEIM: I understand that. Even if you get the total number of viewing hours, you calculate a percentage from that. You apply it to the total number of hours program shown.

THE WITNESS: That is correct.

ARBITRATOR WERTHEIM: And you get a result.

THE WITNESS: Correct.

ARBITRATOR WERTHEIM: And in order to get that result you don't even need to know what was the actual total hours of viewing in each category.

THE WITNESS: Except that you need them to calculate the percentages.

MR. NEIMAN: If I ask a question, maybe we can move this along a little bit.

BY MR. NEIMAN:

Q Once you used the 20, the 50, and the 15, and the 15 of total hours, to come up with the total number. Right. You don't use these numbers again in your analysis. Right?

A That is correct. Again, I should just make clear that the way to think about this is that those 30 is the 20 with an implicit weight for quality.

When the weights are calculated in the way we have just described. You can think of it as hours times the weight, even though mechanically you don't do it that way.

ARBITRATOR WERTHEIM: So sports you are weighting as 150 percent?

THE WITNESS: Essentially they get 1.5 weight here. Precisely. In this example.

ARBITRATOR WERTHEIM: Movies is 101?

THE WITNESS: 1.1 I guess it is. Is that right? Yes. 1.1, and the others get .67 and .33.

BY MR. NEIMAN:

Q It is easier to see in this example than it would be if we had some actual numbers.

A Indeed.

Q Some of them are very long. So you don't know whether those viewing numbers have network programming in them or not?

A I don't remember.

Q And you are aware that network programming is not contended in these proceedings.

A Correct.

Q You understand that under the Syndex rules, certain programming on WGN and WOR is blacked out?

A In some systems, yes.

Q And there is substitute programming that is inserted in its place.

A Correct.

Q Do you know if viewing to that substitute programming is included in these viewing numbers?

A I don't know.

Q And again, that substitute programming is not contended in these proceedings.

A I understand. Yes.

Q We are talking about the program composition side of your data base line. I would like

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to ask you some questions about the royalty payment side, the cost side of your data base.

A I prefer to think of it as the value side.

Q I understand that is your preferred approach. You use data that is the royalty payment data.

A Correct.

Q And in your analysis that is the cost to cable operators carrying distant signals.

A The increase in royalty payments represents an estimate of -- the percentage increase in royalties represents a percentage increase in the value. That is correct.

Q Well, if you had that much trouble getting it out, you can imagine how I felt.

A I am sorry.

Q Just so I am clear, in your analysis, the royalty payment is standing for the cost to the cable operator of carrying an additional signal, is the additional royalty payment he pays to get that signal.

A Yes. The premise is that the cable operator carries additional signals that are worth more to him than they cost, and that in fact, you can use that cost as a measure of value.

Q Okay. So this royalty data is the cost

data.

A And the value data.

Q And value data. Okay, and you want that cost or royalty data to be accurate. Right?

A Correct.

Q If you missed cost data -- again I am not going to ask you how it would effect it because I understand that -- but it is possible if you have some mistakes in your cost data, again, that could affect your analysis.

A Yes. That is one of the reasons, of course, that we excluded observations at various times, because we are concerned about the quality of underlying data.

That is correct.

Q You understand that a cable operator who wants to carry a distant signal has to do more to carry that signal than simply make a royalty payment?

A Correct.

Q He has got to go to WGN. He has got to go to one of these guys, a satellite carrier.

A Correct.

Q He has to pay that satellite carrier some money. Right?

A Correct.

Q And that is part of the cost of WGN.

A Correct.

Q And the amount that the cable operator has to pay a satellite carrier may vary from one cable operator to the next for the same signal.

A Yes.

Q And when the cable operator is evaluating the cost of carrying WGN, part of what he includes in that calculation is that amount of money that he is going to have to pay the satellite carrier.

A I think a better way of thinking of it is that having to pay those costs reduces the value to them of doing so.

Still, this doesn't affect anything, because we are basically saying it is the value of the programming less whatever costs he has to incur to do so, and those are costs that are taken into account.

It is the case that the net revenues from all of the sources have to exceed the cable operator's additional royalty payment for him to do so.

There are a variety of other costs, this being only one of them. That is taken into account in the analysis.

Q Each of those other costs that you just referenced could vary from cable operator to cable

operator. Right?

A I suppose.

Q And you don't have any data about those other costs in your analysis?

A That is correct, and I should again point out that that was one of the reasons that we analyzed changes rather than levels in order to precisely have to take into account factors like that, that are likely to be systematic over time for a cable operator, but do not change between periods, and in fact, an essential element of the analysis, an important predicate is that in fact by looking at changes one in fact substantially reduces the need to worry about factors like the ones you are describing.

Q Just so that we are clear, a satellite carrier fee would be associated with the change. Right?

A To the extent there were additional costs, that is correct.

Q So that isn't the kind of thing that you are excluding when you are looking only at changes. Right?

A If there is a cost associated with the signal, that is correct.

Q Two cable operators, though, who are

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1 making the same royalty payment for a distant signal
2 are going to have different costs to acquire that
3 distant signal.
4 A They could.
5 Q And those other costs are not included in
6 your analysis?
7 A Not explicitly. That is correct.
8 Q All right. I want you to turn to table 1.
9 Again, that first line of numbers in table 1, that is
10 the result of your basic equation.
11 A That is correct.
12 Q And you also have some other equations
13 further down the list?
14 A Correct.
15 Q And these other equations are the ones
16 that you ran to check the results of your basic
17 equation.
18 A I was interested in seeing whether or not
19 modifications in the underlying approach would lead to
20 substantial changes in the results.
21 Q So these are ones that you used to check
22 the changes in the data and specifications for your
23 equation didn't change the results.
24 A That is correct.
25 Q But the basic equation, that is the

1 principal equation that you rely on.
2 A It is the one we started with, yes.
3 Correct. The assumption we would prefer to make, the
4 one that seems most sensible.
5 Q That is the equation that you think has
6 the appropriate data and the appropriate
7 specifications.
8 A Correct.
9 Q That is the basic equation that you would
10 like the panel to rely on.
11 A If I had to pick a single one, that is
12 correct.
13 Q And if you look at that basic equation you
14 see, you know, the coefficient for the sports
15 claimants is .0774. Do you see that?
16 A I see it.
17 Q And statistically that is your best
18 estimate in your best equation of the coefficient for
19 the sports claimants. Right?
20 A That is correct. That is the estimate in
21 the equation. Right.
22 Q And there is some standard error
23 associated with that estimate. Right?
24 A Correct.
25 Q So, you know, there is some probability

1 that the coefficient is on either side of that.
2 Right?
3 A Correct.
4 Q But that is your best estimate.
5 A Correct.
6 Q And the same is true, is it not, for your
7 equation of the local coefficient. Right?
8 A Correct.
9 Q That negative number is your best estimate
10 of the local coefficient.
11 A It is the estimate from the best fitting
12 equation from the data.
13 Q Your best statistical estimate of the
14 local coefficient is negative.
15 A Correct.
16 ARBITRATOR WERTHEIM: Dr. Besen, what is
17 the meaning of the column headed, "intercept?"
18 THE WITNESS: Intercept is simply a term
19 which is -- in the original equation I wrote it as if
20 there were just the two weights, A and B, when in
21 fact, one fits an equation to data like this unless
22 one suppresses the --
23 MR. NEIMAN: Go ahead. I will cede you my
24 pad, but only for now.
25 THE WITNESS: I need a pen.

1 MR. NEIMAN: Right there. I want it back
2 when you are done.
3 THE WITNESS: If this were a single
4 variable, just an M or an S, we have R^1 (R prime), and
5 M^1 (M prime), here, the percentage change in
6 royalties, the percentage change in movies. Okay.
7 The intercept is this height here, and the
8 coefficient, the A term before, is essentially the
9 slope of this line, which tells you how the percentage
10 change and royalty changes with respect to a given
11 percentage change in M.
12 So this is, in fact -- unless you suppress
13 this, you will get an estimate -- this line will not
14 go through the origin, in fact, that is the intercept
15 that we report here.
16 It is mechanical.
17 ARBITRATOR WERTHEIM: Thank you.
18 BY MR. NEIMAN:
19 Q Again, going back to where we were, your
20 best statistical estimate, and again, I apologize,
21 John, is that the local coefficient here is negative.
22 A In the basic equation, the estimated
23 coefficient for a local is negative.
24 Q So your best statistical estimate is that
25 local programming has negative value.

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A Correct.

Q So based on your best statistical estimate you would expect, in a free market place, cable operators would pay programmers not to send them local programming.

A Taken literally, that is what this is. I should add that the coefficients for local and devotional are the ones that are estimated here with the biggest error.

So I think a fairer interpretation of this is that the values are zero or, at best, only slightly larger than zero.

That is how I would interpret it.

Q But the best statistical estimate is that they are negative. Right?

A I believe that has been asked and answered.

Q The record will add that again. Looking further along at table 1, you see the column, "adjusted R^2," do you see that?

A I see it.

Q And for your basic equation, the adjusted R^2, that is .3?

A Correct.

Q And in statistical terms, as I understand

adjusted R^2, you are measuring the fit of your equation to the data.

A It is how well the overall equation explains the variation in the dependent variable, the dependent variable here being the percentage change in royalties.

Q You have like five pieces of data. You have the royalty data and the four variables. Right?

A Correct.

Q So you could think of your equation in a five dimensional space?

A Correct.

Q And this adjusted R^2 is telling you how well, if you just used your coefficients you would fit the five dimensional space that is created by the data.

A It tells you, in a sense, how close the points are to the line, speaking loosely, or the surface here, in your example.

Q I am not sure if five dimensional spaces help anyway, to visualize it, but somehow it helped me a little bit.

You are saying that essentially, in a statistical sense, you are explaining 30 percent of the variance?

A That is correct.

Q And that means that again, statistically, your basic equation does not explain 70 percent of the variance. Correct?

A Yes. That is correct.

Q So 70 percent of the change in royalties isn't explained by variances in program hours.

A I would say, just to be clear here that 30 percent is an extremely good performance, given the nature of this equation and in particular, the fact that it looks at first differences and percentage changes, and the fact that it is a cross section analysis.

Thirty percent is a number that many econometricians would be proud to attain.

Q But just as a statistical matter, you have 70 percent of the variance that is not explained by changes in viewing hours.

A That is correct.

ARBITRATOR WERTHEIM: Dr. Besen, if I recall correctly, you told us that these "T" numbers that are in parentheses, as I recall, you said that if the number were 1.96 or higher, that would give you a great deal of confidence in the number.

THE WITNESS: That would tell you that the

number was significantly different from zero at the -- what is called the 5 percent confidence level.

ARBITRATOR WERTHEIM: I notice that with only a very few exceptions, none of these columns, other than the ones for movies and series, have "T" numbers as high as 1.96.

THE WITNESS: That is correct. That indicates that the effect of movies and series is certain clearly very strong.

The others are problematic. Sports tends to have a number that is just below or sometimes just above statistical significance, and in the other cases you can't reject the hypothesis that the true results are zero.

ARBITRATOR WERTHEIM: Okay. Thanks.

BY MR. NEIMAN:

Q I will reclaim my pad now. The basic equation that you are estimating here is $R^1 = A, M^1 + B = S^1$. That is simplified, without the devotionals and locals, that is the basic equation.

A Correct.

Q And R^1 is the percentage change in royalties.

A Yes.

Q M^1 is the percentage change in quality

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hours or viewing hours of movies. S^1 is the percentage change in quality hours or viewing hours of sports. Right?

A Correct.

Q And the coefficients A and B, that is what you are trying to estimate.

A Correct.

Q And in the equation that you are estimating, the percentage change in royalties, that is the measure of the value of the programming that is added or dropped on these distant signals.

A Yes. That is correct.

Q Okay. Take a look at page 6 of your testimony, down there at the bottom.

A I have it.

Q The sentence that begins, "Changes in -- " and goes over to the next page. Do you see that?

A Correct.

Q You say there that changes in royalty payments will thus accurately reflect the additional revenues earned as the result of the carriage of an additional distant signal and the programming it contains.

A I see that.

Q That is a basic premise of your analysis.

Right?

A That is correct.

Q Turn to page 10. Also at the bottom. Why don't you read the last -- well, I will read it. The first half of that last sentence says that, "The changes in royalty payments reflect how much the signals that are added or deleted are valued by the operator." Right?

A That is what it says.

Q And then you say that what you do is you assign that value, the change in royalty payment, to the various program categories that are used in this proceeding.

A That is what it says.

Q And again, those are basic premises of your analysis.

A That is correct.

Q Just so I am clear here about when you are talking about percentage changes and when you are talking about absolute changes.

Looking at page 6, over to page 7.

A Yes.

Q When you say, "Changes in royalty payments will accurately reflect the additional revenues earned as a result of the carriage of an additional distant

signal." You are talking about absolute changes. Right?

A In that context, yes.

Q Okay. Again, it is a basic premise of your analysis is that absolute changes in royalty payments accurately reflect additional revenues earned from carrying an additional distant signal.

A I stand by what it says on that page. The notion of basic premise, the basic premises are ones that I have already spelled out.

Q Well, what is said on that page, if you look back on page 4 --

A That is a statement about the underlying economic analysis, that in fact, the value of an additional signal, as represented by the additional amount, the cable operator is willing to pay for it. Correct.

Q Turn to page 4 of your testimony, sir.

A Four.

Q Do you see that heading that says, "basic premises?"

A Yes. I see it.

Q And this page 6 and 7 that we are talking about, that is in the section of your report about basic premises. Right?

A Correct.

Q Okay. So again, just so this is clear. If we have a cable operator let's say, adding WGN, and thinking about adding -- let's say first that they add WGN, and we know from looking at what they paid, that that increased their royalty payment by $5,000.00.

A Okay.

Q You are saying that $5,000.00 equals the value of the programming on WGN that that cable operator added?

A To that operator.

Q Yes. So $5,000.00 equals -- what they got by adding WGN was 20 percent more sports, and 10 percent more movies.

You would say that $5,000.00 equals 20 percent A X 20 percent + B X 10 percent.

A No. Not B. You have got these in absolute terms.

B makes sense in percentage terms only, if in fact, I have got to let both sides of the equation in percentage terms.

Q I skipped a step, but we will get there. What you do, you don't actually say that, you don't actually use that $5,000.00. You use the percentage change in royalty payments. Right?

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A And that is because when two different systems add WGN, let's suppose we have a big system and a small system carrying the same amounts -- the same initial complement of distant signals -- they both add WGN.

So they have the same changes in all of the categories, but we know that the big system is going to have to pay a larger additional royalty payment than the small system.

That is exactly the same situation. It would make no sense to put the absolute numbers on the left hand side when you need some method for scaling, and the method for scaling is to calculate everything in percentage changes.

Q Right. I am not arguing with you about that right now, sir. I just skipped a step in my black book here.

A What you wrote down is not what I had --

Q Well, there is some room here for me to write some more, and I will take advantage of it, but let me just articulate what the next step is in your analysis here.

The percentage change in royalty payments reflects the absolute change in royalty payments. Right?

A The absolute change is the numerator of the percentage change calculation.

Q Right.

ARBITRATOR WERTHEIM: Excuse me, Dr. Besen, wouldn't it be more accurate to state -- keeping it in dollar terms rather than percentages, not that adding WGN is worth $5,000.00 to the operator, but that it is worth at least $5,000.00.

THE WITNESS: That is what the paper says. Correct.

ARBITRATOR WERTHEIM: Well, then how does your data take account of possible variations in the maximums?

THE WITNESS: It doesn't, but that doesn't in any way effect the question before the tribunal or the panel, which is the relative shares to assign to the parties.

The question we should be --

ARBITRATOR WERTHEIM: Well, WGN comes with a whole lot of different kinds of programming. Subscribers don't come with signal hats either. "I am a sports watcher." "I am a movies watcher."

THE WITNESS: Yes.

ARBITRATOR WERTHEIM: Most subscribers watch a combination of things. So an estimation of

the effect on his total subscriber base would have to take into account a wide range of types of programming at WGN. Would it not?

THE WITNESS: I am not sure I understood the question.

ARBITRATOR WERTHEIM: I guess what I am saying is I don't understand how you divide that $5,000.00 up among the various program categories in terms of value to the operator.

THE WITNESS: I do it exactly the way I described before.

ARBITRATOR WERTHEIM: Hours of viewing.

THE WITNESS: No. I take the $5,000.00 -- not the $5,000.00, I take the percentage change. I am now being misled here --

MR. NEIMAN: If I could interrupt for a second --

THE WITNESS: I would like to answer the question, if I can.

I have got the percentage change in royalties on the left hand side of my equation.

I have the percentage change in the various program categories, weighted hours, on the right hand side, and statistically I assign the respective shares by estimating the coefficients, the

As and the Bs in the previous analysis.

ARBITRATOR WERTHEIM: But you are not taking into account in any way the rest of the programming offered by that cable operator. Are you?

And the effect of adding this particular new distant signal to that mix among all of his other --

THE WITNESS: That is actually not correct. That is actually not correct. The reason -- as I said earlier in the direct testimony -- one approach to this could have been to look at the total royalty pool payment and relate that to the absolute amounts of programming on distant signals, and if I had done that, then I would have -- as you correctly point out -- I would have to take into account all of the other programs on the system, because those two could influence the basic royalty revenues, and therefore, the amount that is being paid into the royalty fund.

The reason for focusing on period to period changes, instances in which the cable operators added or deleted distant signals, was to reduce the need to control for all of the other factors.

That would have been an impossible study. By looking at period to period changes I am maximizing

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my ability to extract information about the value of the distant signal programming from all of the surrounding other factors that may be influencing it, without having to take them into account explicitly.

That is a premise of what I have done. So I have focused on differences between periods when cable systems added or deleted a distant signal, and that was for two reasons: one, to avoid the need to take into account slowly changing factors; and two, to have large effects, so that when I am looking at the effect of the value of the program on the distant signals, there are large changes in the amount of those programs, which I then can relate to the change in the royalty payments.

This is all part of the design of the way this is done, to maximize the ability to extract from all of the things that are undoubtedly going on, the variables, the effects of the variables that are most interesting to the panel, which are the values of the programs on the distant signals.

BY MR. NEIMAN:

Q I think I have figures out how I want to draw this, sir. So let's take this one step at a time. You have the cable operator first, he makes an assessment of how much revenue he is going to get from

adding WGN.

That is the value of GN to the cable operator. Right?

To the cable operator, you just said that value might be greater, if you are going to add WGN, then the royalty payment they are going to make. Right?

A Correct, greater than or equal to.

Q Greater than or equal to the royalty payment. Then you take that royalty payment and you translate it into a percentage change.

This is a change in royalty payment, and this is a percentage change in royalty. Right?

A That is correct.

Q And you say that that percentage change in royalties equals the percentage change in the categories of distant signal programming. Right?

A It is a function of those.

Q Okay, and so we use another arrow here for "F." I have run out of room.

A No. That is one observation.

Q That is in the case of an addition of a single distant signal.

A That is one observation of all of the observations that I have in my analysis.

Q Sure. In fact, I have just made this observation up. This isn't even a real observation.

A But just to make clear, it is an observation.

Q Right, but you agree that the value over here could be greater than the change in the royalty payments. Right?

A It says it right here in the paper.

Q That's right, and the reason that is, you know, you are a cable operator, and you think you are going to get a million dollars in revenues, but you only have to pay $5,000.00 more in royalty payments, of course you will add WGN.

A Well, the reason is actually more complicated than that. It is that in fact, these come in lumpy increments.

So, some might be worth slightly more than you have to pay for them, and the next one is worth slightly less than you have to pay for it.

So this inequality holds instead of an equality.

Q Well, stay with me for a second, Dr. Besen. I know that is what you say in your testimony, but I am not sure I understand that.

WGN. The cable operator says, "I am going

to get 1 million dollars in revenues if I add WGN." Okay? And, "I am only going to have to make an additional royalty payment of $5,000.00." Right?

We have got 1 million, and then the royalty payment is $5,000.00. Okay?

That cable operator will certainly add WGN. Right?

A If those numbers are correct.

Q If those numbers are correct.

A He would have added it a long time ago.

Q He might have, that is right, and you don't have any information about that. Right?

A I don't want to. I don't care about information about that.

Q Okay. At any rate, suppose a new cable operator comes into town or a new guy takes over the cable system, and he says, "Eureka! I can make all of this money," and he adds WGN. Right?

A If those were the numbers, my assumption would be that those would have been added a long time ago.

Q Fair enough. Let's make it $10,000.00 and $5,000.00, if you prefer. The precise numbers aren't the important point.

The important is that --

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A Well, they actually are the important point, but go ahead.

Q This cable operator would certainly add WGN.

A If those are the numbers.

Q And WGN might be the only signal this cable operator would add. Right?

A It might. It would depend on the relationship between the value of the next signal and the additional royalty payments you have to pay for it.

Q And again, that next signal might be substantially less valuable than WGN.

A Conceivably.

Q Well, I am using this as an example, WGN might have programming that is particularly valuable to customers in that cable operator's area. Right?

A Could be.

Q For example, the cable operator thought he was going to make all of this money from adding WGN because he had lots of Cubs fans and lots of Bulls fans. Right?

That might be why he thought he would make all of this money.

A Could be.

Q And if that is the reason, there isn't going to be any other distant signal he can add that is going to appeal to those Cubs fans and Bulls fans. Right?

A You are hypothetical. That is what your hypothetical states.

Q Well, no. That is not just a hypothetical, sir. If the reason he wants WGN is to get the Cubs games and the Bulls games, that is my hypothetical. Okay?

A It is hypothetical. Okay.

Q Right, but that is my hypothetical. Are you with me so far?

A Yes.

Q If that is the reason, is there any other distant signal that he can add to get those Cubs games and Bulls games?

A In fact, if that were the case, for a significant number of cable systems, that would show up as a very high weight for sports programs on distant signals.

It doesn't show up in the data.

Q Well, the data that you would have would have this number. Right?

A Correct.

Q A percentage developed from this number?

A Correct.

Q It wouldn't have this number in it. Right?

A That doesn't obviously have any -- there is no obvious reason why that would apply as the relative size of those coefficients.

Q But you haven't -- you use this value number in your analysis. Right?

A No. I have a number that is a measure of that, which is the royalty payment, but again, nothing you have said says anything about the influence of that on the estimates of A or B.

There is no reason to believe that that is going to -- in fact, if that were in your hypothetical that the reason I wanted to carry these -- if the reason I wanted to carry GN was exclusively for sports, and that was a common phenomenon across all cable systems, then in fact, the coefficient for sports would show up to be a much bigger number than it shows up in the data.

Q I understand that is your analysis, sir. Stay with me for a moment, again.

Value number is always greater than or equal royalty payment when it is an "add." Right?

A I believe I have said that several times already.

Q Okay, and that is not true for a "drop," is it?

A It is exactly the reverse.

Q Exactly the reverse, that is right. When you drop one distant signal you have value here, it might be zero. It might be very little. Right?

A It could be anything.

Q But if you are dropping, presumably it is -- we will go with the next step. I will withdraw that question.

Then we have here the royalty payment that you would have to pay to keep carrying that distant signal.

A Yes.

Q And we know what this number is.

A Correct.

Q We will call that $5,000.00 again, and we don't know what this number is. Right?

A I use the royalty payment as an estimate of that. Correct.

Q But this number could be, you know, if this number were $100.00, certainly that cable operator would drop WGN. Right?

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A If that were the number.

Q But you use this number, and then you translate that into a percentage royalty change. Right?

A Correct.

Q And then you treat that as a function of the change.

A I think we have been past this point before.

Q The sign here is less than or equals to?

A Well, in your example, $100.00 is less than $5,000.00.

Q But in terms of your analysis, the sign is less than or equals to for a drop.

A Correct.

Q So in a drop you use, as a proxy for value, a number that is greater than the value.

A That is correct.

Q And for an add, you use a proxy for value that is less than the value.

A That is correct, although the differences may not be nearly as large as your hypothetical suggests.

Q I understand. Did you check to see whether the programming that was added was the same as

the programming that was dropped?

A I am not sure I understand the question.

Q Did you check to see whether the same kinds of programming were being added by cable operators as were being dropped by cable operators?

A I treated the drops and adds symmetrically.

Q So you didn't check that.

A I treated the drops and adds symmetrically.

ARBITRATOR WERTHEIM: D r. Besen, if the cost of the royalty payment to the operator is a good reflection of the value of that particular distant signal, and if that is then to be weighted by viewing hours --

THE WITNESS: I would weight it by -- distribute it among --

ARBITRATOR WERTHEIM: The various categories.

THE WITNESS: Based on viewing hours. Correct.

ARBITRATOR WERTHEIM: Well, if those are your premises, why go through all of this?

Why not just say there are so many dollars in the royalty fund. This type of programming has

this many weighted hours. So they will get that percentage, and this other type should get that percentage.

THE WITNESS: You could do it that way. What I preferred to do here was, in fact, to allow the information about the choices of cable operators to tell me something about the relative values of the program categories.

ARBITRATOR WERTHEIM: But you are going by individual changes, additions, or deletions, proceeding from a premise, but if your premise is right, wouldn't you get better or at least equally reliable information by simply applying to the entire royalty pool those percentages of weighted viewing by category?

THE WITNESS: I adjusted the hours by a measure of quality, but then I allowed the analysis to tell me the extent to which the thus weighted hours have different values to the cable operator, in fact, they do.

It is not true in the analysis.

ARBITRATOR WERTHEIM: I am not sure you are addressing my question.

THE WITNESS: I am trying to.

ARBITRATOR WERTHEIM: If you know, for

example, that there are X hours of watching movies, and they are weighted by viewing hours --

THE WITNESS: Yes.

ARBITRATOR WERTHEIM: -- and you come up with a percentage, whether it is 60 percent, 80 percent, 90 percent, whatever it is.

Why not just apply that percentage to the entire 5 million dollars, and say, "That is the share that program suppliers should get of the royalty fund." Why go through all of this business?

THE WITNESS: You could certainly do it that way. The question that this study is addressed to is whether or not you should do it that way, or should you modify the kinds of allocation you make that way, based on information about the specific value that cable operators place on various kinds of programs on their distant signals.

ARBITRATOR WERTHEIM: Have you compared your results to those that would be obtained by doing it the way I have suggested?

THE WITNESS: No. I haven't.

ARBITRATOR WERTHEIM: I guess, all right, given your premise as to how to measure value, I don't see why my suggestion wouldn't have been a very simple way of applying your premise and getting your result,

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and saved a lot of time and calculation.

THE WITNESS: You may be right. This certainly makes the analysis more complicated. It is certainly a simple and straightforward way to do exactly what you suggest.

The assignment I see for myself is whether in fact, that is a good assumption, or whether in fact, the results are affected by going the next step as it were, and trying to ascribe particular values to the various kinds of programs, basing those valuations on actual operator behavior.

You could do what you are suggesting. It certainly is a straight forward way to proceed.

ARBITRATOR WERTHEIM: Well, it all goes back to the power of your premises. Doesn't it?

THE WITNESS: Of course, this depends on the premises. That is not a surprise.

I believe what this shows is that in fact, one gets a lot of mileage out of looking at or going the extra step and weighting the percentage change in hours by some additional factors that reflect what the cable operators apparently -- what their behavior apparently does in terms of assigning different values to the different program categories.

I think you get some other information by

doing that, and that is what the purpose of this is.

MR. NEIMAN: Your Honor, we would like to introduce another exhibit. If this would be a good time for lunch we can stop here.

CHAIRPERSON JIGANTI: You have anticipated my question to you. We will resume back here at 1:30, to make it an even number.

(Whereupon, a luncheon recess was taken at 12:20 p.m., to resume at 1:30 p.m.)

A F T E R N O O N S E S S I O N

1:34 p.m.

CHAIRPERSON JIGANTI: Okay, Mr. Neiman, you may proceed.

BY MR. NEIMAN:

Q Dr. Besen, you can see, if you look behind you, that I have come up with a neater presentation of what we were talking about before.

At the top we are talking about adds, and that is the situation where the value in the market place is greater than or equal to the royalty payment.

Right?

A Correct.

Q And in case of drops, the value in the market place could be less than or equal to the royalty payment.

A An additional royalty payment.

Q An additional royalty payment. Is that right?

A That is correct.

Q Okay, and your equation doesn't measure how much more value in the market place there is in the case of adds, than the royalty payment?

A No, but one would expect that they would be relatively close.

Q But your equation doesn't measure that, and you haven't estimated it. Right?

A No, but we are expecting it to be relatively close.

Q And you are not concerned with the amount of the value in the market place exceeds the actual royalty payment. Right?

A No, because they are relatively close.

Q And the reason you say they are relatively close is because the cable operator is going to keep on adding distant signals until he gets to a point where adding another one would have the result of not having an increase in value that was greater than the royalty payment.

A That is correct.

Q Okay, but assuming there are instances where a cable operator might like to add distant signals, but there aren't any out there that he could add that would have a value greater than his royalty payment. Right?

A Did you say there certainly are?

Q There certainly are. Yes.

A I don't know that.

Q Well, there certainly maybe. Isn't that correct?

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A There certainly may be?

Q You don't know whether there are or not. Do you?

A I don't have any reason to believe that, in fact, there are the big discontinuities in the world that you are describing.

Q You didn't do anything to check when you were preparing this analysis.

CHAIRPERSON JIGANTI: Okay. Dr. Besen, would you keep your voice up.

THE WITNESS: I am sorry. I apologize.

ARBITRATOR FARMAKIDES: Also, Mr. Neiman, they can't hear you in the back, you are speaking forward and they can't hear.

MR. NEIMAN: Okay.

BY MR. NEIMAN:

Q You didn't do any study to determine whether or not this amount that value exceeded royalties was large?

A No, but --

Q Well you -- go ahead. I will let you finish your answer, unless that was the end of your answer.

A No. It wasn't the end. In any economic analysis where there is an array of values from

highest to lowest, as there are in many circumstances, one expects these are more or less continuous.

So you shouldn't expect very big gaps here. I should add that even if there were, and I doubt very seriously that this was the case, that in fact, these gaps were large, there is no particular reason to think that has any effect on the relative size of the estimated shares.

Q Well, did you check, for example, to see whether the same kind of programming was being added as was being dropped?

A No.

Q And again, the programming that is added, you are assigning a value that is less than the value in the market place. Right?

A I believe that would be approximately equal to that.

Q But it is less than or equal to.

A Less than or equal to. Again, if the differences are small, this is immaterial.

Q Again, you didn't check what was the kind of programming that was being dropped. Right?

A It is not important for this purpose.

Q And in that programming that was being dropped, you assigned a value that you call the

maximum value of that programming.

A That is correct, but they should be approximately the same.

Q And again, for the adds, you assigned a value that we can call the minimum value of that program.

A Again, they should be approximately the same.

MR. NEIMAN: I will show the witness at this time a document I have marked as Joint Sports Claimants Exhibit 14-X.

(Whereupon, the document referred to was marked for identification as Joint Sports Claimants Exhibit No. 14-X.)

ARBITRATOR WERTHEIM: 14-X?

MR. NEIMAN: 14-X. Yes.

BY MR. NEIMAN:

Q Again, Dr. Besen, I haven't marked your copy yet. Go ahead and put the number on it.

Do you have exhibit 14-X in front of you, sir?

A I have it.

Q I will represent to you, sir, that exhibit 14-X is drawn from the underlying viewing data that

you produced in discovery in this proceeding.

What we did is we calculated the average added station and dropped station in your sample. Okay?

A Fine.

Q And we did that based on 4-cycle data, and we also did it on 6-cycle data. Have you got that?

A I understand that.

Q Okay. What this shows, then, is that the average station that was being added, in the sample that you were looking at, had 17 percent sports, and 70 percent movies and series, if you look at it on a 4-cycle basis. Right?

Do you see that?

A I see it.

Q And again, it shows, if you look at it on a 6-cycle basis it is 14 percent for sports, and 80 percent for movies, the programming that is being added.

Do you see that?

A I see that.

Q And that programming that is being added, that is the programming that you assigned the minimum value to. Is that right?

A I assigned a value to it from the royalty

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payments. That is correct.

Q And the market place value is going to be greater than or equal to the value that you assigned to it.

A These percentages are the percentage changes from period to period?

Q These are the percentage shares. In other words, the average station that was added had 17 percent weighted hours of sports, and 70 percent weighted hours of movies.

A In other words, what you are telling me is that this doesn't tell me anything about the percentage change in movies or sports?

It doesn't tell me anything about the variables in my equation.

Q I am just telling you what this does show you, sir.

A Just so I understand, because the term "percentages" is floating around here. These are not estimates of the percentage changes in movies or sports hours. They are the variables in my equation.

Q That is correct, sir. What this is showing you is that the average station that was being added had 17 percent sports, and the average station that was being dropped only had 17 percent sports.

MR. LANE: Excuse me, the exhibit does not use the word, "average" station.

MR. NEIMAN: Well, I'll represent to the witness that it is the average. That is how we calculated it.

ARBITRATOR WERTHEIM: That's what is meant by "typical?"

MR. NEIMAN: That is correct, Your Honor.

CHAIRPERSON JIGANTI: I'm sorry. Did you have an objection, Mr. Lane?

MR. LANE: I objected to the use of "average" when it says "typical," since average has a very definite meaning.

I don't know what the meaning of typical is.

MR. NEIMAN: Well, Your Honor, I represent that it means average.

CHAIRPERSON JIGANTI: The representation by counsel is -- in effect you are amending Exhibit No. 14-X?

MR. NEIMAN: I will be happy to amend it. Each place it says, "typical," it should say, "average." Yes, Your Honor.

CHAIRPERSON JIGANTI: Okay, granted to amend the exhibit to say average rather than typical.

I will mark the exhibit thusly.

You may proceed.

BY MR. NEIMAN:

Q So again, the average station that was being added, had 17 percent sports, and the average station that was being dropped had 7 percent sports.

Do you see that?

A I see that.

Q And that is based on the data that you provided. In contrast, the average station that was being added had 70 percent movies, and the average station that was being dropped had 84 percent movies.

Do you see that?

A I see that. Yes.

Q And you assigned to the average station with 70 percent movies, and 17 percent sports, that is the programming that you assigned the minimum value here. Is that correct?

A Let's be careful here. We are talking about percentage changes here. These data do not translate directly to the variables that I analyzed.

Q They don't translate directly, but take a look again at page 6 to 7 of your testimony, sir.

A Yes. You know, it doesn't make any difference whether they translate directly into the

variables, because those aren't, in fact, the variables that I used.

I don't understand how -- you haven't made it clear to me what relevance this has to the variables I used in my calculation.

Q What you were doing in your analysis was valuing the programming that was being added or dropped. Correct?

A Yes.

Q I am showing you now what the characteristics of that programming was. Correct?

A Correct, but the variables in question are percentage changes, and these are not those percentage changes.

Q I understand that, sir, but this is the programming that was being added. It was 70 percent movies, and 17 percent sports in your sample, sir.

MR. LANE: I will object to the question. It has no foundation. The programs that were being added were not average stations.

They were from particular stations. That is not shown on this exhibit.

CHAIRPERSON JIGANTI: Rephrase your question.

MR. NEIMAN: I would be happy to, Your

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Honor.

BY MR. NEIMAN:

Q The average station that was being added, as shown on this exhibit, had 17 percent sports, and 70 percent movies, and when you were valuing the station that was being added, you ascribed to that station its minimum value. Correct?

A I calculated the royalty change associated with adding it.

Q And that royalty change, as we have discussed, is the minimum value on the market place --

A I would argue, as I have indicated before, that it is probably not very different than true value.

Q But you agree that that is the minimum value. Correct?

A I would argue that that is immaterial here.

Q The answer is yes, isn't it, sir?

A Yes, but it is irrelevant.

Q And again, you don't know how much more because you haven't measured how much more the value of the added programming is than the royalty payment associated with it.

A I have already indicated to you that there

was no reason to believe that those differences were very large.

Moreover, there is no reason to believe that these estimates have any effect on the relative value of the shares that I estimated.

Q And again, the programming that was being dropped, the average station that was dropped had 84 percent series and 7 percent sports.

That is less sports than the average station being added. Right?

A That is what your numbers show.

Q So stations that had only 7 percent sports, in your analysis you assigned to those stations, when they were being dropped, the maximum value. Correct?

A You cannot draw that inference without referring to the variables used. In particular, you can't isolate the stations that were added from the stations that were already being carried. Okay, because the variables are percentage changes.

So you have to know something, not only about the characteristics of the programming on the station that is being added, but also the characteristics in the programming of the stations that were previously being carried, because everything

is in percentage changes.

You can't isolate these without reference to the other portions of the variables that were constructed.

The variable as a percentage change, you can't focus on one part of it and say anything or tell anything at all about the variable itself.

Q What you were trying to do was to value the programming that was being added or dropped. Right?

A I think we have been by this place before.

Q That is correct. Right?

A Correct.

Q You weren't trying to value programming that was already being carried. Right?

A No. The purpose of the analysis is to assign a share to all of the programs being carried. It is true that I used information about the additional signals being added -- information about the programming on the signals being added as a portion of the calculation, but that is only a portion of it.

It is also relevant as to what programs there were on the stations that had previously been carried by the cable operator, or continue to be

carried, in the case of the drops.

Those are relevant. We are talking -- the variables are percentage changes. I don't want the panel to be misled that these were, in fact, the variables that were used, because they are not.

Q That's right, but these are the average stations that were being added, and the average stations that were being dropped.

A You have represented that to me. Yes.

Q Yes. I have. That means that cable operators in the market place were going out and adding stations, on average, that had 70 percent sports, and they were going out in the market place and dropping stations that had 7 percent sports.

A If that is what this says. Those are not the variables that are part of my analysis.

If you want to present a separate analysis, that is perfectly fine. I don't see the relevance of this to what I have done.

Q And you, for example, didn't check to see if you ran a regression, whether you got a different result looking at added programming than you did when you looked at dropped programming. Did you?

A Did I separately run an analyses for adds and for systems that were adding and dropping?

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Q Yes.

A No. The answer is no.

Q So you don't know what that would show?

A No, but because I don't believe these disparities here are very large, I can't believe it is going to have any significant effect.

Remember the differences in the estimates that we have obtained, for example, between movies and series and sports is enormous.

It is not only enormous, it shows up across a whole array of different equations that have been estimated. So it is terribly robust.

The idea that it can be influenced by this is simply not plausible.

Q So you think it is implausible that if you ran a regression looking at adds and drops separately, you would get a different result?

A I don't think I would get a very different result, certainly not a result that substantially changes the 8 or 9 times ratio of the share of movies and series to sports.

Q If you did the regression, separating adds and drops, and you got a different result, that would indicate something. Wouldn't it?

A It would depend on how different it would

be.

Q If you did that regression and when you looked at adds you got a coefficient for sports of 50 percent, and a coefficient for movies of 5 percent. That would show you something.

A That would shock me.

Q That would shock you. Dr. Besen, we did that regression analysis.

A Who is we?

Q We had consultants perform it on your data base. We will be introducing that in the future.

The result that we got when we looked at net adds, Dr. Besen, was a sports coefficient of 54 percent.

The result we got when we looked at movies was minus 21 percent.

A Excuse me?

Q I will say that again. When we looked at net adds only, sir, the coefficient for sports was 54 percent.

A I don't believe it.

Q Well, you will have to see it in the rebuttal, sir.

You asked Cable Data Corporation to provide you with data on Form 3 systems. Right?

A Correct.

Q And the data they provided you had some Form 2 systems in it as well?

A There were some stations that had been Form 2 at some earlier point in time.

Q In fact, in footnote 30, on page 21 of your testimony --

A Page 21, I am sorry?

Q Yes, footnote 30. Do you see that?

A Correct.

Q And that says that of the 208 observations in your study, 30 were changes --

A That is correct.

Q So in the numbers that you presented, you have data on changes by Form 2 systems, and data on changes by Form 3 systems.

A Correct, although we did separate analyses for the Form 3 systems alone, and the results were not very different.

Q You didn't report those results in your testimony?

A I think they were reported in a footnote. I don't remember now, but they are not very different.

Q You don't report the numbers, do you, sir?

A You don't report the numbers. That is

correct.

Q When you are doing a regression analysis, coefficient for a variable is zero, that means you found no relationship between the change in that variable and the change in the dependent variable.

A That is correct.

Q And so, in general, when you are doing a regression analysis, if there is no correlation or relationship between the dependent variable and the independent variable, you expect the coefficient you are estimating to be zero. Correct?

So if you looked at adds and drops that were made by a cable operator, that you expect it to have no effect on royalty payments.

You expect the coefficient you estimate to equal zero. Right?

A That is correct.

Q For example, if you were looking at Form 1 systems.

A Yes.

Q Those are systems with gross receipts below $75,000.00 or so?

A I believe that is correct.

Q And those systems pay a fat royalty of $28.00. Right?

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1 A Correct.

2 Q So for Form 1 systems --

3 A Just a moment. I wonder if we could take

4 a quick break.

5 Q You want to take a break now?

6 A Can we have a quick break?

7 MR. LANE: Mr. Chairman, can we have a

8 break?

9 CHAIRPERSON JIGANTI: Sure. Take a 10

10 minute break.

11 (Whereupon, the proceedings were recessed

12 for the day at 1:53 p.m.)

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CERTIFICATE

This is to certify that the foregoing transcript in

the matter of:	Hearing: Distribution of 1990, 1991 and 1992 Cable Royalty Funds
Before:	Library of Congress Copyright Arbitration Royalty Panel
Date:	January 5, 1996
Place:	Washington, DC

represents the full and complete proceedings of the aforementioned matter, as reported and reduced to typewriting.

Charles Pyott
CHARLES PYOTT

P-R-O-C-E-E-D-I-N-G-S

(9:39 a.m.)

CHAIRPERSON JIGANTI: Mr. Neiman, you may proceed.

MR. NEIMAN: Your Honor, at this I would like to mark as Joint Sports Claimants Exhibit 33-X an excerpt from the written testimony that Dr. Besen submitted in the 1990 proceeding.

ARBITRATOR WERTHEIM: What number is that?

MR. NEIMAN: Thirty-three.

ARBITRATOR WERTHEIM: Thirty-three, thanks.

WHEREUPON,

DR. STANLEY M. BESEN

WAS CALLED AS A WITNESS BY COUNSEL FOR THE PROGRAM SUPPLIERS CLAIMANTS, AND HAVING BEEN PREVIOUSLY SWORN, RESUMED THE WITNESS STAND, WAS EXAMINED AND TESTIFIED AS FOLLOWS:

FURTHER CROSS EXAMINATION

BY MR. NEIMAN:

Q Dr. Besen, you submitted a regression analysis in the 1990 proceeding, correct?

A That's correct.

Q And in that 1990 analysis, you employed the same basic methodology that you are submitting

here, right?

A That's correct.

Q You were comparing changes in royalty payments with changes in programming, right?

A Percentage changes, yes.

Q Right. And that's the same thing you're doing in this proceeding?

A Correct.

Q And in the 1990 analysis, you were weighting program hours by total household viewing hours, right?

A Correct.

Q And that's the same thing that you're doing in this proceeding?

A Correct.

Q And the basic equation that you have up here: R' = aM'+bS', that's the same basic equation that you used in the 1990 proceeding, right?

A That's correct.

Q And again just to recap, R' is percentage change in copyright royalties, M' is percentage in distant signal movie hours, S' is percentage change is distant signal sports.

A Again with the caveat, of course this is an illustrative example, not exactly what we did.

Q Right.

A There are more program categories, for example, and more systems.

Q But the basic equation that's up here is the same basic equation that you used in the 1990 proceeding?

A That's correct.

Q I want you to turn to page 14 of the except of your 1990 testimony that's in front of you. And if you could also turn to page 14 of the testimony that you've submitted in this proceeding?

Do you have both of those page 14s in front of you?

A I do.

Q Take a look at the first paragraph of the testimony that you submitted in your 1990 testimony.

A Yes.

Q It begins with "Each observation." Do you see that?

A I do.

Q And do you see on page 14 in the testimony you're submitting in this proceeding also a paragraph that begins with "Each observation?"

A I see them both, yes.

Q And why don't you take a look at those

paragraphs and confirm for me that they are basically identical?

(Pause.)

THE WITNESS: With the obvious caveat that this was a typo in the earlier version, the time period T-1 -- on line one, two, three, four, five, sixth line of the previous 1990 testimony said T_0, it should have been T_1. You've corrected it. It's corrected in the current version.

BY MR. NEIMAN:

Q And other than that typo, they're basically identical?

A I believe so.

Q Take a look at the next paragraph in both the 1990 testimony and the testimony that you've submitted in this proceeding. That begins with "As an example." Are those two paragraphs identical?

A I believe so.

Q And looking at the paragraph after that, the paragraph that begins with "By estimating." Do you see that paragraph in both your 1990 testimony and the testimony that you've submitted here?

A I see it, yes.

Q And again, are those two paragraphs, the one in your 1990 testimony and the one you've

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1 submitted here, identical?
2 A I believe it's possible with the exception
3 of the word "thus" that appears in the earlier and not
4 in the later one. But other than that, it's exactly
5 the same.
6 Q And for the next paragraph now in your
7 1990 testimony, the paragraph that begins with "It is
8 possible" --
9 A Correct.
10 Q -- does that paragraph appear in the
11 testimony that you're submitting in this proceeding?
12 A No.
13 Q And if you look at the paragraph that
14 follows the "It is possible" paragraph in your 1990
15 testimony that begins "Since the willingness" -- do
16 you see that on page 16 of your 1990 testimony?
17 A Correct, correct.
18 Q Does that "Since the willingness"
19 paragraph appear in your 1990 to '92 testimony in this
20 proceeding?
21 A No.
22 Q Well, does the first sentence of "Since
23 the willingness" appear on page 15 of your --
24 A Oh, I'm sorry.
25 Q -- 1990 testimony?

1 A Excuse me. I'm sorry, yes. So yes,
2 that's correct. That paragraph is in there. I'm
3 sorry. The paragraph we described earlier is in the
4 later version.
5 Q Just to recap here, if you start on page
6 14 of your 1990 testimony --
7 A Yes.
8 Q -- the paragraph "Each observation," that
9 paragraph is in the testimony that you're submitting
10 in this proceeding, correct?
11 A I'm sorry, I missed that.
12 Q Page 14 of your 1990 testimony, the
13 paragraph that begins with "Each observation."
14 A Correct.
15 Q That paragraph is in your testimony at
16 this proceeding?
17 A Correct.
18 Q The next paragraph, "As an example," that
19 paragraph is in your testimony in this proceeding?
20 A Correct.
21 Q The next paragraph, "By estimating
22 statistically," that paragraph is in your testimony?
23 A Correct.
24 Q The paragraph after that, "It is
25 possible," that paragraph is not in your testimony?

1 A That's correct.
2 Q And the paragraph following that, "Since
3 the willingness," that paragraph again is in your
4 testimony in this proceeding?
5 A That's correct.
6 ARBITRATOR WERTHEIM: I'm sorry, was that
7 in your previous testimony or not?
8 THE WITNESS: It is. There -- I think the
9 point being made is that there is a paragraph in the
10 earlier testimony that is not in the current
11 testimony.
12 ARBITRATOR WERTHEIM: Thank you.
13 BY MR. NEIMAN:
14 Q Could you read the "It is possible"
15 paragraph into the record, sir?
16 A Read it out loud?
17 Q Yes, please.
18 A "It is possible to interpret our estimated
19 equation as the demand for distant signal programming
20 by cable operators. As such, the estimated equation
21 should display diminishing returns."
22 There's a footnote. Shall I read the
23 footnote?
24 Q You can skip over it.
25 A "By relating the percentage change of

1 royalty payments to the percentage change of program
2 hours in the various categories, we permit our
3 equation to exhibit diminishing returns." Again, a
4 footnote.
5 "If the coefficient for a given category
6 is less than one, this indicates that a one percent
7 increase in program hours in that category produces a
8 less than one percent increase in royalty payments."
9 "This means your diminishing returns to
10 programs in that category."
11 Q Can you explain for the Panel what you
12 mean by "diminishing returns?"
13 A Well, a diminishing return is a concept of
14 economics that says if you --as you have more -- that
15 as you increase your consumption of a particular
16 commodity, each additional unit of that commodity adds
17 less to value than its predecessor.
18 In the case of production, we're talking
19 about a firm -- if a firm has a certain amount of
20 capital and is adding labor in order to increase its
21 output, each successive unit of labor input adds less
22 to output than did its predecessor.
23 Q And that's a basic economic premise?
24 A Yes.
25 Q Okay. And that paragraph on diminishing

1 returns is not in your testimony at this proceeding?
2 A That's correct.
3 Q But you said in your 1990 testimony that
4 your estimated equation should display diminishing
5 returns, right?
6 A Yes.
7 Q And you thought that was correct, right?
8 A That was a reasonable assumption, yes.
9 Q And that estimated equation that you were
10 talking about in your 1990 testimony, that's the same
11 estimated equation that you're talking about in this
12 proceeding?
13 A Correct.
14 Q And you say in your 1990 testimony that to
15 display diminishing returns, the coefficient for a
16 category has to be less that one, right?
17 A Correct.
18 Q And the coefficients that you're talking
19 about it, those are the same coefficients that you're
20 talking in this proceeding, right?
21 A That's correct.
22 Q And so if the coefficient for a category
23 is greater than one, does that mean there are not
24 diminishing returns for that category?
25 A In a literal sense, yes.

1 Q And the same --
2 A Again, to be clear, the estimate -- these
3 are estimated coefficients. So in fact, the
4 coefficient may exceed one, but not be statistically
5 different from one or it's just some smaller number,
6 for example.
7 Q But a coefficient that was statistically
8 greater than one would indicate that for that category
9 that it would not statistically diminish returns?
10 A That's correct.
11 Q And that's true for the equation that
12 you've submitted in this proceeding?
13 A I'm not sure what you mean by "that's
14 true."
15 Q Well, that's what you said in your 1990
16 testimony, correct?
17 A Correct.
18 Q And that applies to your equation that you
19 state here?
20 A I believe that's correct.
21 Q Now when you do a regression analysis, you
22 have two groups of variables, right, the dependent
23 variable and the independent variable?
24 A That's correct.
25 Q And here in your regression analysis, the

1 dependent variable is the percentage change of
2 royalties, right?
3 A That's correct.
4 Q And the independent variables are the
5 percentage change in the weighted hours of movies,
6 sports and so on?
7 A Correct. But just often -- sometimes
8 they're referred to as the -- the independent variable
9 is described as the right-hand side variables. They
10 appear on the right-hand side of the regression
11 analysis.
12 Q And where the coefficient for one of your
13 independent variables comes up as zero, that means
14 you've found no relationship between the changes in
15 that variable and changes in the dependent variable?
16 A Correct.
17 Q And conversely, if you expected that there
18 was no relationship between the independent variable
19 and a dependent variable, you would expect to get
20 coefficients of zero or around zero, right?
21 A I'm sorry, if I expect -- you're not
22 talking about this regression, but in general?
23 Q In general, that's correct.
24 A If I would expect no relationship, I would
25 expect a zero.

1 Q Right. So if you were looking at
2 decisions by cable operators to add or drop distant
3 signals that you thought had nothing to do with
4 royalty payments, you would expect coefficients of
5 around zero, right?
6 A It might, yes. It would depend on -- you
7 haven't told me enough about the nature of the rest of
8 it for me to be sure.
9 Q Well, in the equation that you were
10 estimating.
11 A Correct, yes.
12 Q If you were looking at cable operators
13 whose decisions didn't have anything to do with
14 changes in royalties, that's what you expected you
15 were looking at. You would expect to get coefficients
16 of zero or around zero.
17 A I'm not entirely sure what you're after.
18 Q Well, let me make it a little more
19 specific, sir. If you were looking, for example, at
20 decisions by Form 1 cable operators -- a Form 1 cable
21 operator is a cable operator with royalties below
22 about $75,000, right?
23 A I'm not sure exactly. It's roughly right.
24 Q And a Form 1 cable operator pays a flat
25 royalty rate?

A That's my understanding.

Q It's about 28 dollars no matter how many distant signals they carry?

A I'm not sure of the precise number.

Q But for a Form 1 system, there's no relationship between the number of distant signals that they carry and the royalty payment that they make?

A That's my understanding.

Q And so if you were looking at Form 1 systems and you were adding in your regression, you would expect to get coefficients of zero or around zero?

A I might. Again, it would depend on -- I mean, without knowing more about what somebody would do when they did this, I can't be sure. But the facts noted -- I would want to see a more specific version of your question to try to sort of answer it that way in a generality.

Q What would you need to be more specific, sir?

A You would need to show me what the regression was.

Q Well, it's your equation. And instead of looking at the universe that you looked at, you looked

just at the universe of Form 1 cable operators.

A Again, I wouldn't have looked at Form 1, because I wouldn't expect a relationship.

Q Right. You wouldn't expect a relationship with Form 1s?

A But I wouldn't have looked for one, no.

Q And therefore, you would expect that you would get zero coefficients?

A Actually, I wouldn't have looked for it there.

Q You wouldn't expect to get a coefficient other than zero, would you, for Form 1s?

A There might be some random effects there: literally zero or significantly different from zero. I don't know what you mean. Just literally zero? Significantly different from zero?

Q Not exactly zero, but about zero.

A Again, statistically different from zero or exactly equal to zero?

Q Which would you be more comfortable with, sir?

A You're asking the question. I'm trying to answer it.

Q Well, would you expect to get coefficients that were statistically different from zero?

A Probably not.

Q And didn't include Form 1 systems in your analysis?

A I wouldn't -- since I didn't expect what they paid to vary with what they carried, I would have no reason to do so.

Q Okay. That's another way of saying that Form 1 systems don't really face the economic calculation that you're trying to describe?

A I think that's fair.

Q You only looked at Form 2 systems and Form 3 systems?

A Yes, actually primarily Form 3. There were a few Form 2 systems, right.

Q And if you had also looked at Form 1 systems, which didn't face the same economic calculus, I guess you would expect, as a general matter, that that would lower the coefficients?

A I'm sorry, do you mean if I included them in the regression?

Q That's correct.

A I'm not certain that's right.

Q Well, let me ask you as a more general question. If you were to add noise into a regression analysis, would you expect, as a general matter, that

will lower the coefficients or drive them towards zero?

A I think the question is not precise enough for me to answer. I don't know what you mean by "adding noise."

Q Well, if you add a bunch of instances where you don't think there's a relationship, would you expect that that would have the result of driving the coefficients toward zero?

A It might. This is a more complex equation for me to answer that question categorically. It might.

Q That wouldn't be a surprising result if that were what happened?

A I'm not -- quite frankly, I'm not sure what I would expect. I wouldn't want to include those observations in my regression, because I don't think they fit the underlying model. So it wouldn't make sense for me to include those.

The model is based on an underlying economic calculus that affects only a subset of all cable systems. I would not have, therefore, included the observations for which that underlying model was inappropriate.

Q Okay. Now you understand that Form 2

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systems pay royalties on a different basis than Form 3 systems?

A I understand that.

Q And that a Form 2 system, the royalty they pay doesn't depend on the number of distant signals that the Form 2 system carries?

A That's correct. You may recall, we did an analysis in which the few Form 2 systems in the sample were excluded, and you get essentially the same result.

So I don't believe any of the presence of the Form 2 systems is contaminating or affecting any of the results we're getting.

Q When you set out to do your analysis, you didn't ask for data on Form 2 systems.

A That's right. Some of the systems that were Form 3 as of the time we asked for the data has been Form 2 at an earlier point in time. And that's why they were in the original sample.

Q But again, for Form 2 systems, you wouldn't expect that the royalty payment that's made depends on the number of distant signals, right?

A No. But again, the relationship, I would expect, is looser for Form 2 systems. And the reason is that for Form 2 systems, when you add a distant

signal, you may have an increase in royalties and an increase in basic subscriber revenues that would increase your royalty payments. And so there might be a relationship.

But I wouldn't expect the kind of relationship that I would get with Form 3 systems where the percentage applied to the basic subscriber revenue itself would change with the number of distant signals added.

And that's the reason we focused it on the Form 3 systems.

You may recall the discussion that said that you wanted to look for big changes. Big changes were more likely to occur with Form 3 systems which would have to change -- which would experience an increase in the royalty rate as well as the revenues to which the royalty rate is applied when a distant signal is added.

Q Okay. And would a Form 2 cable operator who is making a decision about whether or not to carry another distant signals -- will there ever be a case that the Form 2 cable operator has to worry that the additional revenues that the signal will generate will not cover the additional royalty payment?

A Let me put it this way: let's consider a

Form 2 system that adds a distant signal.

Q Right.

A With that addition, it increases its revenues, the basic subscriber revenues. The, its royalty payments are going to have to go up.

Q Right, and --

A I would have to worry about that.

Q Okay. And you're aware, sir, are you not, that the amount that a Form 2 system's royalty payments would go up would be as a percentage of his revenues?

A That's correct. And that's why I think the effect would be -- my expectation would be the effect would be weaker there because you would get not only -- in the case of Form 3, you would get whatever increase in revenues you experienced, and the amount would be large. It could also be an increase in the rate applied to that. That where I'd expect the biggest effect.

I would want to look for this effect in the case primarily of Form 3 systems, which is why we asked for Form 3 systems at the outset.

Q Okay. But for Form 2 systems, the increase in royalty payment is going to be solely due to increases in revenue, right?

A That's correct.

Q And the amount that the royalty payment increases for a Form 2 system will be a percentage of the amount that royalties have increased. Isn't that correct? I mean, that revenues have increased?

A Correct.

Q So the revenue increase for a Form 2 system will always be greater than the royalty increase, correct?

(Pause.)

THE WITNESS: That will be true for any system.

BY MR. NEIMAN:

Q For any Form 2 system?

A Correct.

Q And that's different from a Form 3 system, right?

A Correct.

Q And in the equation that you're estimating, the calculus that you're looking at is the Form 3 cable operator who's trying to decide will I get enough revenues to cover my additional royalty payments?

A Correct.

Q And a Form 2 system doesn't have to worry

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about that?

A Well, has to worry about it less; that's correct.

Q Well, the revenue is always going to be greater than the increase in royalty payments, isn't it, for Form 2 systems?

A That's correct, as are the costs by statement of account.

Q But --

A Yes, that's correct. And again, the reason -- that's the reason for focusing on Form 3 systems. That was the reason for the initial request in terms of Form 3 systems, that some Form 2 systems ended up in the sample. We analyzed those.

We also reran the analysis with the systems that had been Form 2 at the time of the addition or deletion.

We took those out to see whether it made any difference. It didn't.

Q Now there were about 30 Form -- exactly 30 Form 3 system changes in the 208 changes you looked at, right?

A Form 2?

Q Form 2, yes.

A I'm not sure.

Q Well, why don't you turn to page 21 of your testimony and Footnote 30?

A I'm sorry, page?

Q Page 21.

A That's what it says. Yes, that's correct.

Q So of the 208 observations that you looked at, 30 were distant signal changes by Form 2 systems?

A Just those that were Form 2 as of the time of the change.

Q And for those systems, they didn't really face the economic decision that your equation was trying to estimate, right?

A Less effectively faced it, correct.

Q Well, your economic -- your equation is talking about times when a cable operator has to worry about whether or not revenues will cover increased royalty payments, right?

A Well, the system -- the system is still going to experience an increase in royalty payments, which is going to be some measure of the value of the distant signals.

Therefore, it's still possible to parse that into the separate components. But it's not as good an observation as the Form 3 systems, which is the reason that we ran the analysis separately for

Form 3 systems.

Q And in fact when you did it in the 1990 testimony, you again intended to look only at Form 3 systems, correct?

A Yes.

Q And you thought that it was proper to look only at Form 3 systems, correct?

A Those were the ideal observations to look at, correct.

Q And you understand that Form 3 systems account for 97 percent of the royalty pool?

A I'm not sure of the number.

Q But they were about 15 percent of the changes that you looked at, were Form 2 systems?

A Apparently.

Q And you did run your regression looking just at Form 3 systems?

A Separate regression for Form 3 systems.

Q Would you turn to page 27 of your testimony, Footnote 43?

A Page 27?

Q Yes.

A I see that, yes.

Q And you say there that when you estimated the basic equation using only the 178 Form 3 systems,

the results were generally consistent with the results reported in the text?

A That's what it says, yes.

Q And you said there were two important caveats, right?

A That's correct.

Q And one of those caveats was related to the sports coefficient?

A Correct.

Q And the other caveat related to the local programming coefficient?

A Correct.

Q And those are the only two caveats that you noted?

A That's correct.

Q And so you didn't note any important caveats with respect to the movies/series coefficient?

A That's correct.

Q So it's your testimony that the movies/series coefficient, when you look just at Form 3 systems, was generally consistent with the results when you got when you looked at Form 2 and Form 3 systems combined?

A That's correct.

Q But you didn't report the actual

1 coefficients that you got when you looked just at Form
2 3 systems, did you?
3 A That's correct.
4 Q Do you recall what those results were?
5 A No, not precisely. I can supply them to
6 you, but I don't have -- I don't know -- I kept -- I
7 don't remember them now.
8 Q Do you recall the range in which the
9 movies/series coefficient fell?
10 A No.
11 Q Do you recall whether that movies/series
12 coefficient was greater than one?
13 A No.
14 Q You don't recall one way or the other?
15 A I don't recall.
16 Q Do you recall whether it was significantly
17 greater?
18 A I don't recall. Again, one of the reasons
19 -- I realize there are lots of results here. The idea
20 was that there's a fair amount of clutter, just
21 presenting lots and lots of results. So it's a kind
22 of trade-off between things that were reported
23 directly and things that were reported in footnotes
24 just to avoid the problem of excessive clutter in the
25 presentation.

1 Q And you didn't, in your written testimony
2 in the proceeding, discuss diminishing returns, did
3 you?
4 A That's correct.
5 Q And you didn't report the coefficient that
6 you found looking at just Form 3 systems, did you?
7 A That's correct.
8 Q You did report the coefficient that you
9 found when you did time effects analysis, right?
10 A That's correct.
11 Q And you reported the coefficient you found
12 when you did your filter sensitivity analysis?
13 A That's correct.
14 Q And you reported the coefficient that you
15 found when you looked just at 1990 to 1992, right?
16 A Correct.
17 Q And you reported the coefficient that you
18 found when you did just your Fact Book analysis,
19 right?
20 A Correct.
21 Q And Form 3 systems make up, I think you
22 said, virtually all of the copyright royalties?
23 A I'm sorry, you said that.
24 Q That's what it says in your testimony.
25 A Oh okay, fine.

1 Q And your analysis won't work for just Form
2 3 systems, right?
3 A It does.
4 Q And you didn't include in your report the
5 results of just Form 3 systems?
6 A That's correct.
7 Q You testified before that you weighted the
8 program hours by measures of quality.
9 A Yes.
10 Q And to measure quality, you were looking
11 at the household viewing hours analysis provided to
12 you by MPAA?
13 A Right.
14 Q Did you consider any other measures of
15 quality?
16 A No. Actually, may I just --
17 Q Yes.
18 A One thing that was left -- maybe was left
19 unclear last time, and so I would like to take this
20 opportunity to do so if I may clear it up. The
21 quality adjustments that I talked about are quality
22 adjustments essentially across or within program
23 categories.
24 So I wanted to make sure that essentially
25 all sports or all local or all devotional or all

1 movies and series were -- were -- what's the right
2 word here? -- were consistent so that I didn't treat
3 a sports program, for example, that had lots of
4 viewing the same as a sports program that didn't have
5 much viewing.
6 And so the weighting by hours was designed
7 to have a uniform category, essentially a homogeneous
8 category, of sports or movies or series. It could be
9 movies and series or sports or whatever programs.
10 That was done to make the programs within
11 categories more or less uniform.
12 The statistical analysis is designed to
13 come up with the weights to be attached to those
14 categories of programs that had been made homogeneous
15 by the weighting. So I think of the weighting as
16 making each of the categories themselves homogeneous
17 and the statistical analysis as determining the
18 weights to be applied to those categories and
19 homogeneous programs, if that's clear.
20 Q Let me just make sure I understand
21 something, sir. When you did your weighting, if you
22 started out before you weighted and if you were
23 looking just at program hours -- okay, I'm just going
24 to pick an example out of the air.
25 You know, you might have program hours of

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50 percent for movies, 10 percent for sports, 30 percent for devotional and 10 percent for local.

And then after you weighted, you might end up with, say, 60 percent for movies, 20 percent for sports, 10 percent for devotional and 10 percent for local, correct?

A You could.

Q So the weighting could change the overall percentage in each category, correct?

A But you've got to remember what the -- what the -- the analysis is about. It's looking at percentage changes. So the variables in percentage changes is what I'm interested in.

And ultimately -- for example, how many -- let's take local. When you add a distant signal, how much of an increase in local programming has there been? Now, one thing you could do is simply say well, it's just increased by the percent, represented by the percentage increase in hours.

I thought that wasn't a reasonable assumption. It's possible the local programs being added were different from the local programs previously being carried.

One way to control for that difference is to just take into account the viewing on the program

hours that were being -- excuse me -- the program hours -- the viewing hours of those programs that had previously been carried and the viewing hours of the programs that have been added.

And that's a way, so if a program with lots of -- if lots of hours were added, but they had a relatively small amount of viewing, I treated that as a small percentage increase in the local programming.

And that was the purpose of the adjustment by viewing. It was to make the categories of programs more or less homogeneous. Not every sports program is the same as every other sports program. Not every movie and series is the same as every other movie and series.

The way to make those more homogeneous is to weight by hours.

Having done that, I now have what I hope is relatively homogeneous program categories, and the statistical analysis is then designed to see the appropriate weight to attach to each of those categories now which are defined in a fashion so the programs within them are homogeneous.

They're hours rather than -- excuse me, they're viewing rather than hours.

I say that because I want to make clear the purpose of doing it was to provide homogeneity within categories. The statistical analysis is designed to generate the weights.

Q But you agree that the effect of doing it is to change, for any particular signal, the share of its programming, which is attributed to each category?

A But again, the effect that has on the analysis, it plays out through the percentage change calculation, which is what I want to do. I want to make sure that when I add a distant signal, I want to know how much of an increase there has been in the programming of each of the categories.

After all, that's the factor that I believe is driving the results.

I don't want to have a situation in which programs are added that have relatively little viewing, but have a lot of hours and say, well, there's been a big increase of programming in that category when, in fact, there hasn't.

A way to control for that is to take into account the viewing on the programs that were being carried in a particular category and the viewing on the programs that were added in a particular category.

I do that so my percentage changes are

meaningful. That's the reason for doing it. I just want to be clear about that.

Q Yes. You say in your testimony -- why didn't you look at page 22? And if you look at the first full paragraph on page 22, the fourth line down, you say that using your measure --

A I'm sorry, please -- I'm sorry, please direct me to the place.

Q It begins with "Thus," four lines down, the first full paragraph on page 22. Do you see that?

A Correct.

Q It starts with "Thus, for popular programming." You're saying there that with your quality measure, more popular programming was afforded a higher weight than less popular programming.

A Yes. But again, the purpose of it is to adjust within categories of programs. I appreciate the fact that this is a point that may not have been entirely clear in the writing, so let me emphasize it again.

The purpose is to create homogeneous categories of programs by adjusting by weight by viewing.

And then having done so, now I have essentially quality adjusted local programming or

quality adjusted devotional programming, quality adjusted by hours -- by viewing rather.

And now I'm in a position to ask what's the relative value of programming in each of those categories, themselves having now been quality adjusted so they're homogeneous within categories?

Q Now --

ARBITRATOR FARMAKIDES: Dr. Besen, excuse me, the bottom of page 21 --

THE WITNESS: Yes.

ARBITRATOR FARMAKIDES: -- and the top of page 22, do you attempt to explain that? And I've been curious about that.

When you say "quality," how do you adjust the various programming so that they can be compressed into a unit that you feel has the same quality?

THE WITNESS: Well, let me think. I should emphasize here quality. I put quotes around quality.

It's an adjustment designed to take into account the fact that the programs in each category are not homogeneous. We start with that as a premise.

This is a common problem that economists have when they have -- to give an example, I'm trying to determine the effect of labor inputs on output. I

want to know how much additional labor contributes to the output of a firm.

Well, we know labor comes in various levels of skill. There are unskilled, semi-skilled, skilled.

If I used this -- if I just sort of added up all the hours of labor in each category, that might not be a very meaningful picture of what the inputs are.

So what economists typically do in those circumstances is to try to talk about quality adjusted labor by giving a smaller weight to unskilled labor and a somewhat higher to semi-skilled and a still higher weight to skilled, and then talk about labor, which is quality adjusted.

The idea here is that we have hours. Hours are not homogeneous, just as labor hours are not homogeneous.

And so the question is well, how can we make those labor hours more homogeneous because we're going to treat -- excuse me, the program hours as homogeneous because we're going to treat -- we're asking for the payment to all local programs or all devotional programs.

Well, we know the programs within those

categories are not homogeneous. What I attempted to do was to make those categories more homogeneous by weighting.

So that if a sports program had twice as many hours of viewing as another, it got twice as much weight in the determination of how much sports programming that station was carrying.

What is confusing here, I think, if I sort of think back about what the problem is, it's that we're using a similar kind of weighting scheme for each of the categories, and always weighting by viewing.

But the purpose of weighting by viewing is to render the categories homogeneous.

ARBITRATOR FARMAKIDES: How do you factor the intensity level in there if you're going to be measuring quality?

THE WITNESS: I'm not sure I know what you mean by "intensivity level." All --

MR. GARRETT: The avidity that that you all have been using has gotten us into the same pattern.

THE WITNESS: I don't think I ever used the word "avidity" here.

ARBITRATOR FARMAKIDES: I'm sorry, other

people have here. In other words, what I'm talking about is when you begin to coalesce these into something that is homogeneous, how do you factor in the different kinds of programs, the different kinds of interests, whether or not a person just turns on the t.v. or whether the person actually goes to that to turn only to that particular program?

THE WITNESS: Again, I think the way to think about what I've done is really in two separate parts. One is to render the program categories as homogeneous as I can make them.

And what I did was use viewing in order to do that. I thought that's better than using raw hours. There may be other ways to do it, but that was the only way I could think of to do that.

So I'm going to treat an hour of sports program that has twice as much viewing, give it a weight of -- as twice as large as a program. If one sports program has 100 viewers and another one has 50, I treat the second program as being -- as being twice as much programming, if you will.

Okay, so I will -- so it's now -- so if I -- let me go back. If I have 100 viewing hours of sports programs, say --

ARBITRATOR FARMAKIDES: No, I understand

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you, sir. I understand what --

THE WITNESS: Okay. But --

ARBITRATOR FARMAKIDES: I still do not understand how you factor in this -- this element that I would call intensivity, avidity, interest.

THE WITNESS: Well, the intensity or avidity or interest here is taken into account in comparing the various categories of programs.

The purpose of this, of my analysis not the part that's here, but the statistical analysis, the purpose of this is once having done the best job I can to make these hours as homogeneous as I can within categories, I'm interested in the question of the relative weights that a cable operator places on the respective categories of programs.

So the statistical analysis tells me the weights to apply in terms of the decisions on the part of the cable operator to carry additional signals. It tells me what weight he attaches to the programs, the various program categories on the distant signals, as they contribute to his revenues.

But I've got to make the input somehow homogeneous because we all know that we don't want to treat an hour of one kind of sports program is the same as an hour of another.

One way to do that, it seems to me, the most reasonable way, maybe the only way given data availability, is to weight them by -- is to weight them by viewing, to make them more homogeneous than they would be if all we did was use hours.

I wouldn't say it's a perfect way to do it, but it's a good way to do it.

BY MR. NEIMAN:

Q So what -- what you used to do this weighting that you've described is what -- the data that MPAA provided?

A The data we asked MPAA to provide, correct.

Q And you didn't have any other data available to you to weight with, did you?

A No, I wanted to weight by viewing, so I asked them to give me data about viewing.

Q Did you consider weighting by anything other than viewing?

A I didn't, no.

Q And you've talked about viewing. The household viewing hour analysis that MPAA gives you, that provides a number, a total household viewing hours number for each category of programming on each of the stations in your sample?

A Correct. Each of -- yes. Each of the stations use the analysis. The sample is cable systems, so it's each of the stations use the analysis.

Q What is your understanding as to how that total household viewing hours number is calculated?

A I think it's a diary study, but I'm not an expert on how those data were derived.

Q So if you have a number that says for a particular category of programming, there are 1,000 total household viewing hours, what does that number mean?

A It's -- I believe it's the number of hours of programs times the number -- times the average number of viewers of the programs in that category.

Q So a program category that has an average audience of 1,000 households and it's on for 500 hours, how many total household viewing hours is that?

A I would have trouble -- I would have trouble -- I would have trouble with the extra zeros.

Q Let me put it up on the board.

ARBITRATOR WERTHEIM: Mr. Neiman, could you find a different pen? The Panel would like to read it.

BY MR. NEIMAN:

Q So we'll take Program A, that -- category A that's on for 1,000 hours.

A I'm sorry, category is a program category?

Q Yes.

A Okay.

Q And it is -- has an average audience of 500 viewers.

A Erase the comma.

Q Thank you. Okay, what is the total household viewing hours for category A?

A It should be a five with five zeros after it.

Q And let's look at category B, which is on for 500 hours and attracts an average of 1,000 viewers per hour. How many total household viewing hours are there for category B?

A I believe it's the same.

Q So the second category attracted twice as big an average audience as the first category?

A Right, per -- per hour.

Q And --

A Excuse me, that should mean per hour.

Q That's correct. But in terms of total household viewing hours, they have the same number of household viewing hours?

A That's correct.

Q Okay. Now is Program B --

A I'm sorry, are these program categories or --

Q Program category. Program category B -- well, let's talk about programs now instead of program categories. This may be a little bit easier to do.

One program that's on for an hour and attracts 500 viewers, okay, and you have another program that's on for a half an hour and attracts 1,000 viewers, okay? Those two programs would have the same number of total household viewing hours, right?

A Correct.

Q Is Program A, which attracts 500 viewers, of the same quality as Program B, which attracts 1,000 viewers in your opinion?

A All I can tell you is what I did and why I did it.

Q Well, do you have an opinion on whether, in that scenario, Program A is as popular as Program B?

A Per hour or total?

Q Well, you say that -- in your testimony, that more popular programming is afforded a higher

weight than less popular programming.

A Correct.

Q Is Program A more popular in your opinion than Program B?

A In the way the calculations are done, if they have the same viewer hours, they're accorded the same weight.

But remember, what we're trying to do here -- back to the point, we're trying to make categories -- programs with any category as homogeneous as possible.

And so what I want to avoid is, when I add -- when I add a program that has a lot of -- or, add a lot of hours of a particular type of program, but it has relatively small viewing, I don't want to treat that as if it's a large increase in the amount of programming in that category, which is, after all, the explanatory variable in my analysis.

And the way to avoid making that mistake is by trying to adjust that addition for the amount of viewing of those programs.

So lightly viewed programs, if there are a lot of hours of lightly viewed programs are added, I want to treat that as less of an increase than if a lot of hours of highly viewed programs are added.

That's the logic of what I've done.

Q I understand that, sir. What I'm asking you is do you have an opinion as to whether Program A, which attracts 500 viewers for an hour, is more popular or less popular that Program B, which attracts 1,000 viewers for a half hour?

A I don't think I can answer that question. It's more popular per half hour, the time period.

Q Yes.

A But in fact, I take that into account in the analysis. I take into account how many hours of programs are added and how much viewing there is on them. That's the purpose of what I've done.

Q Do you have an opinion --

A I have a hard time answering the question because it's not what I did and the reason that I did it.

Q Do you have an opinion, sir, on whether, to a cable operator, a program that is on for a half hour and attracts 1,000 viewers is more or less valuable than a program that is on for an hour and attracts 500 viewers?

Did I get that right? I'm not sure if I gave you different numbers there. Let me start the question again.

Do you have an opinion, sir, as to whether to a cable operator, a program that is on for a half hour and attracts 1,000 viewers is more valuable or less valuable than a program than is on for an hour and attracts only 500 viewers?

A No, I don't have an opinion about that. What I -- let me say, for the purpose of the analysis, I treated those as if they were the same.

Q But you wouldn't have an opinion on that?

A Well, I have an opinion in the sense that I think that was the appropriate way to do it. It would be inappropriate to just look at hours.

It seems to me viewing is a reasonable way to try to adjust for quality differences. Just as example, I said before people traditionally used education as a way of weighting labor hours, as a way of trying to make labor hours a more homogeneous category than just hours.

And this is no different from that. This is a standard thing economists do all the time. They have -- you have an input that is heterogenous and you're trying to make it as homogeneous as possible prior to trying to determine its productivity, if you like.

And the viewing was intended to do that.

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CHAIRPERSON JIGANTI: Mr. Neiman, excuse me, we're going to take a recess. Take ten minutes.

(Whereupon, the proceedings went off the record at 10:25 a.m. and resumed at 10:38 a.m.)

CHAIRPERSON JIGANTI: You may proceed, Mr. Neiman.

BY MR. NEIMAN:

Q Turn to page 38 of your testimony.

A Yes.

Q Od you see the section there headed "Sample Representative?"

A It should say "Sample Representative Miss."

Q Okay. And you state there that you examined the possibility that systems that change their distant signal compliment are different from the universe of Form 3 systems that account for virtually all the copyright royalties. Do you see that?

A I was concerned that they were substantially different from them, so their behavior might not be representative, correct.

Q You wanted to see if your sample cable system was representative of the universe, right?

A I wanted to at least roughly see whether or not the sample looked very different from the

universe.

Q And that is an important thing to do when you're doing a regression analysis, right?

A Well, it's important when drawing an inference from a -- to a broader universe.

Q Because if you were looking at an unrepresentative sample, then you couldn't draw a broader inference to the -- to the universe, right?

A You would be more cautious about doing so.

Q You might get -- if you looked at an unrepresentative sample, you might get unrepresentative results?

A You might. It would depend on how unrepresentative it is and it could still be the case that it looked -- that it was the same. But it's a possibility, yes.

Q And so it's important to check that?

A So I did, yes.

Q What your study is looking at is the cable operator decision to change the distant signals that it carried, right?

A I looked at the instances in which cable operators changed the distant signals they were carrying.

Q All right. And what you were doing was

you were saying that the changes in royalty payments reflect how much the signals that are added or dropped are valued by the cable operators, right?

A That's correct.

Q So what your equation is doing is trying to estimate the relative values of the different categories of programming on the signals that cable operators are adding or dropping?

A I believe that's correct.

Q And of course, sometimes cable operators decide not to change their distant signal compliment, right?

A That's correct.

Q And when a cable operator decides not to drop or add a signal, but simply carry the signal, you don't look at that in your equation?

A I don't look at those observations, that's correct, for the four reasons which I describe in the paper.

Q Yes. But of course, the royalty pool that we're distributing here contains royalty payments made by cable operators for stations that they carried throughout this period, right?

A Correct.

Q Now is it your contention that the

relative values of the different categories of programming on the distant signals that were added or dropped is a good measure of the relative value of all the distant signals that cable operators paid royalties for?

A Of the programs on all the distant signals they carried.

Q That is your contention?

A Correct.

Q And did you check to see whether the distant signals that were being added or dropped were similar or were representative of the distant signals for which royalties were paid in this proceeding?

A No, I had no reason to do so.

(Pause.)

MR. NEIMAN: I would mark as Joint Sports Claimant's Exhibit 34-X, and distribute to the witness.

(Whereupon, the above-identified document was marked as Joint Sports Claimants Exhibit No. 34-X for identification.)

BY MR. NEIMAN:

Q Are you familiar, sir, with what's known

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as instances of carriage?

A I'm not sure what you mean in this context.

Q Let me explain it to you. Instance of carriage is each instance in which a Form 3 cable operator carried a distant signal. And of -- what this exhibit shows, if you look at the instances of carriage column, is that 50 percent of the time where cable operators were carrying -- Form 3 cable operators were carrying a distant signal, the distant signal that they were carrying was WTBS, WGN or WOR.

Do you understand that?

A You know, explaining it to me, yes.

Q Now the first column here, "Percentage of all added and dropped signals," do you see that?

A I do.

Q In your 208 sample that you ran your equations on, there were approximately 280 distant signals that were being added or dropped, or 280 times in which a cable operator was adding or dropping a distant signal.

A Actually, I didn't calculate that number.

Q Does that sound about right to you, sir?

A I'm not certain.

Q What this percentage number here in the

first column shows is the percentage of those times when a cable operator was adding or dropping a distant signal, that that distant signal that they were adding or dropping was WTBS, WGN or WOR. Do you see that?

A That's what it says.

Q So what this exhibit shows is that in your sample, 36 percent of the distant signals that were being added or dropped were one of the three original superstations.

A That's what it says.

Q Okay. And in the universe, 50 percent of the distant signals that were being carried by Form 3 operators and were paying royalties for were one of those three superstations.

A You're telling me that?

Q Yes. And if you look at the next column, "Basic royalty contribution," that shows that of all the money that Form 3 cable operators paid to carry distant signals in this period, 75 percent of that money went to carry one of these three original superstations.

A I don't know how you -- how was that number calculated?

Q That is probably not a precise estimate. What was done, so that you understand this sir, is

that you would look at the total amount that a cable operator paid to carry the distant signals, and you would simply add -- and look at the total number of distant signals that the cable operator carried, and you would simply allocate equally to each of those three stations.

If you carried three and you paid $1,000, you would allocate $333 to each of them.

A I understand what you did.

Q So in your sample looking at the original superstations, 36 percent of the stations that were being added or dropped was an original superstation.

A Excuse me. Let me stop you just for a moment. I think there may a sort of confusion here, which is the confusion that we had the last time.

It's true the focus is on the stations that were added or dropped. And of course, for every one of those systems, the denominator and percentage change calculation involves the programming on all the signals they were carrying.

So for example, if the station didn't add WTBS but was already carrying it, WTBS's programming would be reflected in the denominator of my percentage change calculations.

Q I understand that, sir. But as you

testified just a moment ago, what your equation is doing is estimating the relative value of the different categories of programming on the distant signals that were being added or dropped.

A That's not correct.

Q That is what you testified. How is that not correct, sir?

A Well, I think you asked the same question the last time. It's just -- it's just not -- it's not correct.

Q Would you turn to page --

CHAIRPERSON JIGANTI: Excuse me, Doctor. What wasn't correct, his rendition of your statement or --

THE WITNESS: Well, I may have been unclear. I'd like to clarify it if I can. This is a point that's important to me.

We use the -- the instances in which stations are added or dropped to get information about the relative value of programs on the distant signals -- on distant signals.

But in fact, that value, that relative value, in fact, applies to all to the programs carried on the distant signals whether or not they were added or dropped.

ISC WRITTEN REBUTTAL STATEMENT

Can I -- would it take -- I think it might take a minute. I might be able to clarify this. I think it's important, and I think it maybe was left unclear before.

And I think it would make it clear to all of us if I could take a minute, if that's possible.

Can I get a marking thing? I'm going to just avoid sort of clutter here. I'm going to not talk in terms of percentage changes until the end. I'll talk about just changes.

But everything, in fact, is actually done in terms of percentage changes. The point that I want to make here is that the coefficients that I estimate about the relative values, while derived from information about the stations -- systems that were added -- derived from instances in which stations were added or drooped, in fact, applies to all the stations that were, in fact, carried by a cable system.

So let me just sort of do it -- it's just simple algebra, and I think I can make the point. I think this was left unclear before. I realize that Mr. -- let's suppose that I have -- let's talk about a -- the relationship between the total amount of royalty payments paid for all signals carried by a cable system and all the programs on all the distant

signals that station carries, okay?

So, let's talk about you have the royalties that it pays in time period one, okay? And I'm going to leave out all of the percentage changes here because it's just going to make things confusing here.

I would just relate that to, and again, to be very simple, the amount of movies it carries in period one and the amount of sports that it carries in period one, okay?

And it may be influenced -- the royalty payments may be influenced by a lot of other things, okay?

So, let's just say there are a bunch of other factors that might also influence these royalty payments.

For example, the amount of other programming that the cable system is carrying. If they generate -- if carrying ESPN generates more revenues, it will have to pay more royalties, okay?

We can do the same thing for time period zero.

(Pause.)

THE WITNESS: Okay, now this represents the relationship between the royalty payments by a

cable system in the period after it's added the signal and the period before, just as I've talked about all along.

What I've done, for the reasons I gave before, which is I don't want to have to deal with the possibly very large number of factors out here that might conceivably be influencing the R's, but I want to get at the relative weights of movies and sports.

What I've done, the approach which is described in some detail, is simply take the differences here.

If I -- if X_1 and X_0 are essentially the same, those are the slowly changing factors that I would ignore because I think the principal -- by focusing on adds or drops, it's the influence of these factors that are most likely to be changing these.

So I'll just take R_1. I'm just going to subtract this equation from this one. I get the -- $M_1 - M_0 + CX_1 - X_0$. You'll see the X's just drop out because X_0 is -- X_1 is assumed to be equal to X_0, okay?

Now, what have I got? I'm going to use the changes in royalties and relate them to the changes in movie programming to the changes in sports programming, okay, just the changes.

But you'll notice the A and the B and the

C that I estimate are, in fact, the B and Cs here. Those are the Bs and the Cs that apply to all of the programs on all of the distant signals.

So the fact that I'm using information about the adds and the drops to draw inferences does not mean that, in fact, I'm just valuing the programs on the signals that were added or dropped.

I'm valuing the programs on all the signals that were carried by the cable system.

Now just to make the thing more complicated, we'd make some percentage changes. But the basic idea is the same.

You can estimate B and C, which is the fact you're interested in, by looking at the changes. And what this device does is permit me to ignore all of these factors here.

But it's still case with the Bs and the Cs, while they're estimated for instances in which there are adds or drops, in fact apply to all the programs on all the distant signals that are being carried by the operator. So it's --

ARBITRATOR WERTHEIM: Excuse me, Doctor. What is A in your equation?

THE WITNESS: A would be the intercept -- we never actually estimate these equations. This

would be the intercept of an equation if I had estimated just the total royalties against the amount of programming in each category.

ARBITRATOR WERTHEIM: What do you mean by "the intercept?"

THE WITNESS: It's the amount of royalty payments you would get essentially if movies and sports programming were zero and whatever else -- whatever X factors were zero.

I generally would expect A to be at or close to zero if I estimated this.

But anyway, it drops out when I do the subtraction. And what I'm doing is I'm getting at the Bs and the Cs, which are the values of all the programs on all the distant signals, even though I'm estimating them only from instances of changes.

And the only difference between this and what I've actually done is that's percentage changes. That's actually what I did.

I hope that clarifies it because I'm not sure what it does.

ARBITRATOR WERTHEIM: What's the -- on the left, the R, what is that subset?

THE WITNESS: Zero.

ARBITRATOR WERTHEIM: Zero.

THE WITNESS: Sorry.

BY MR. NEIMAN:

Q You've taken lessons from me.

A I should have been neater.

ARBITRATOR WERTHEIM: Okay, fine.

THE WITNESS: So to get -- the point that I make, just to have the record clear, is this is not intended as the value of the programs on the distant signals that are added or dropped.

It's intended to value the programs on all the distant signals that are carried.

The technique for doing so is by focusing on the adds or the drops.

BY MR. NEIMAN:

Q And as you say on page ten of your testimony, that the change in royalty payments reflects how much the signals that are added or deleted are valued by the operator. That's what you say on page ten, right?

A What we're doing is confusing two things here.

Q Just answer that question first, sir. Is that what you say on page ten?

A Well, you'll have to show it to me.

Q Why don't you look at page ten on the

bottom?

A Correct, that's what it says.

Q And I understand -- or do you agree that the change in royalty payments reflect how much the signals that are added or deleted are valued by the cable operator?

A The programs and the signals that are added or deleted are worth, yes. But it also reflects the values of all the other programs that are carried, whether added -- whether on signals that are added or dropped. I think it may actually be sort of explained in a somewhat indirect fashion --

(Pause.)

BY MR. NEIMAN:

Q So --

A Just if I may, the -- look at Footnote 21 on page 15. I admit it's a bit indirect here, but -- but it says, "The underlying royalty equation is logalinear." I apologize for the jargon.

If everything in the first two equations had been a logarithm, which is in fact what I assumed, you would in fact get the percentage change equation that I estimated.

That's what -- so I'm sure you want the record clear.

Q Absolutely.

A Right, okay. The point is that while we use those instances to obtain estimates of value of programs on distant signals, the way this is constructed is those, in fact, for the reason I just showed here -- even though they're just obtained for the changes, in fact they apply to all the signals, the programming on all the signals that are carried, whether those signals were added or dropped.

Q I'll just ask you next time, Dr. Besen, if you would put the logalinear stuff in the text.

(Laughter.)

THE WITNESS: It's always a trade-off, as you know, in that position.

(Asides.)

BY MR. NEIMAN:

Q That was a joke.

A Take it up with Mr. Stewart.

Q Let's just go back to the point on page ten of your testimony, sir. I just want to make sure I understand what your testimony is.

You agree with what you say in your testimony that changes in royalty payments reflect how much the signals that are added or deleted are valued by the operators?

JSC WRITTEN REBUTTAL STATEMENT

A That's how much the programs are. What does it say on page ten?

Q "The signals."

A Correct, correct. It does, correct. Yes.

Q And now you're also saying that those changes in royalty payments reflect how much all the signals are valued by cable operators?

A I'm saying that we use those changes and those values of the distant signals that are added to infer something about the value of the components of it. That's the analysis that I've been discussing all along here.

It is in the nature of the way that I've done this, as I've just tried to explain here, perhaps not successfully, that those coefficients -- that's where we had the clarification.

Those coefficients do not apply just to the programming on the signals that are added or dropped. And that's where we were at the start at this.

And that's why focusing only on the identity of the adds or the drops, which is what this table does, doesn't do justice to what the equation is trying to do.

It's trying to place a value on all the

signals that are being carried, whether added or dropped.

We don't want to confuse the instances that are used to -- the carriage instance or the add or drop instances that are used to derive or to estimate the results from the applicability, which is intended to apply to all the signals that are being carried.

Q What is what you -- what you did in your equation is look at the adds or drops. And your premise is that's applicable to, for the algebraic reason you've shown here, to all the signals.

A It's the programming and all the distant signals that are carried, correct.

Q Did you check to see whether cable operators valued programming on some kinds of stations differently from programs on other kinds of stations?

A I was only interested in the programming on those stations. I mean, they may have been valued to the extent that they had -- that they had different programming on them.

If there were differences, they would have showed up as differences in the left-hand side of my regression.

And then I -- what I was concerned with

was first getting at the total -- getting at the value of the signals that are being added or dropped, and then decomposing them into their components.

So I don't care whether the left-hand side is a big number or a small number. All I care about is my ability to determine the separate contribution of the various kinds of programs on those signals to that number, whether it's a large number or a small number.

Q Did you check to see whether cable operators accorded different relative values to the different categories of programming on superstations than they did to the different categories of programming on other distant signals?

A No, I treated all the distant signals the same, correct, except -- except that -- that's not quite right. That isn't true. Except to the extent that the programming on superstations had higher relative viewing.

And that, therefore, was reflected in the viewing numbers I talked about before.

If, for example, the sports -- the sports programming on a superstation was especially highly viewed, I would treat the addition of a superstation as a large increase in the -- in the -- large

percentage increase in -- in viewing weighted sports hours.

And so to the extent that superstations have more attractive programs, in the sense they attract greater viewing, that would be reflected indirectly.

But I didn't specifically single out the superstations for separate analysis.

Q And, for example, if you had done a regression that looked just at changes in which a cable operator was adding or dropping just a superstation, that regression would tell you how a cable operator valued the different categories of programming on superstations?

A It might. The -- the -- what I did was treat the program -- the way I attempted to control for differences in the quality of programs, say as between, for example, a superstation and another station, was in terms of viewing.

So that's the way I took that into account.

Q And that was an effort to control within each category?

A Correct.

Q Not across categories?

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A Correct.

Q Okay. But you didn't run a regression that looked at changes that just involved superstations?

A That's correct.

ARBITRATOR FARMAKIDES: Dr. Besen, may I ask a question, please? Your form -- did you assume that a signal was changed because of a factor involving movies or a factor involving sports?

THE WITNESS: What I assumed was that when a station -- when a signal was added, it was added because it contributed to the revenues of the cable system and that the principal reason that it had value to the cable operator was, again, because it generated additional subscriber revenue or additional revenues from a variety of sources.

And in turn, that increase in revenue was driven by the programs on the signals that were being added.

ARBITRATOR FARMAKIDES: But I understood you to say from your formula that the two factors that you considered were movies and sports.

THE WITNESS: No. I'm sorry. This was a --

ARBITRATOR FARMAKIDES: I'm talking about

that formula.

THE WITNESS: Yes, in that formula, it was just movies and sports. Obviously in the analysis, it was movies, sports, local and devotional.

But it's clear, is it not, that this is just an illustrative example and not what I did?

I didn't put more factors up there because I didn't have more -- enough space to do so. I could have written movies and series, sports, local and devotional.

I just didn't in order to make the -- because I was trying to make an analytical point here, and not to describe what I actually did.

ARBITRATOR FARMAKIDES: And so when you looked at the changes, you were looking at a changed signal, irrespective of what brought that change around?

THE WITNESS: Oh, I assume the operator added the signal because it added value. It added more to its revenues than the additional royalty -- added at least as much in revenues as the additional royalty payments that it would have to make.

ARBITRATOR FARMAKIDES: I guess what I'm trying to understand for myself is in changing that signal, what did the operator get in the new signal

that he did not have in the old signal, or vice versa?

And did the new signal contain one of those factors that you have listed that it must have?

THE WITNESS: No, the new signal had programs -- had some movie programs. Let's take this as an example.

The new signal had some movie programs and some sports programs, okay?

ARBITRATOR FARMAKIDES: And something of everything else.

THE WITNESS: And something of everything else, but just for the purpose of this example --

ARBITRATOR FARMAKIDES: All right, yes.

THE WITNESS: -- just those two. It was previously carrying some movies and some sports, okay?

ARBITRATOR FARMAKIDES: Yes.

THE WITNESS: So what this variable here measures is just the percent increase in movies, whose carrying -- let's forget about viewing for the moment. It was carrying 100 hours of movies and series, movies programs, and the new signal has 50 hours of movie programs.

So this is represented in my analysis as a 50 percent increase in the amount of movies that it's carrying.

ARBITRATOR FARMAKIDES: Well what my question then is, does the new signal have something else which the old signal did not have like devotional, Canadians, NAB --

THE WITNESS: Oh, you mean -- no. I think the answer is that, in every case that we analyzed the signal was always adding movies to a previous compliment of movies or sports to a previous compliment of sports or a devotional to a previous compliment of devotional.

If somebody had been carrying no devotional before; that is, the signal was carrying at zero, and it added a signal that had some devotional, unfortunately, that would have meant there would have been an infinite percentage increase in -- let's divide by zero. The percentage increase would have been infinite. It wouldn't make any sense.

And I think there were -- there may have been a few observations where that occurred. We deleted those.

So in every instance in the analysis, the station was -- the station was added, had programs -- the programs that it was carrying, the program types it was carrying, were program types that were already represented in all the distant signals and distant

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signals that had previously been carried.

So those percentage increases are numbers like a 50 percent increase or a 30 percent increase or an 80 percent increase, but not an infinite increase.

So there's no -- any time there was a zero before, just as a technical matter, you couldn't -- you can't put infinity in as a variable.

And so we eliminated a -- I think a very small number of observations where that may have been the case. I think that's reported in here.

BY MR. NEIMAN:

Q Think back, Dr. Besen, for a second here. Do you know whether cable operators valued the different categories of programming on superstations the same as they valued the different categories of programming on other signals?

A I analyzed, to the extent that programs on distant signals -- on superstations were valued differently, in my analysis, that will be reflected in differences in the viewing on those distant signals.

Q And superstations represented -- payments for superstations -- to carry superstations represents 75 percent of the royalty payments --

A As you've defined it.

Q And --

A And as you've defined it and as calculated. I don't --

Q I --

A Those are your numbers, not mine.

Q And again, it would be possible to run a regression looking just at decisions to drop or add the superstations?

A If there were enough observations involved I suppose.

Q And you haven't run that regression, right?

A I have not run that.

Q Those are all the questions I have.

ARBITRATOR WERTHEIM: Doctor, with respect to what you just told -- concerning omitting from your analysis changes where the same type or category of programming had not been shown at all prior to the change, wouldn't that bias your results against types of carriage that are added in those superstations?

THE WITNESS: I don't think so because -- because I think there's enough variation. In the first place, there were enough datapoints in my analysis.

Well in the first place, almost no observations are affected by this. That is, that is

a very anomalous circumstance.

There are always categories -- there are enough observations and enough variation in the observations that I actually looked at to, in fact, permit me to assign the relative weights to them. So I don't think that's the problem.

But again, as a technical matter, it's simply not possible to consider those observations because you end up with numbers out there that are infinity and you just can't analyze them.

ARBITRATOR WERTHEIM: But what is --

THE WITNESS: I don't know how I would have done so.

ARBITRATOR WERTHEIM: But in the analysis is biased for that factor, it would be biased against the programming of the type that might be newly added?

THE WITNESS: I'm not sure that's right. In the first place -- in the first place, I'm not sure there -- I can't answer your question directly.

I'm not sure there is a bias. And if there is a bias, I'm not sure that it factors in the direction that you indicated. So I --

ARBITRATOR WERTHEIM: Wouldn't those --

THE WITNESS: I think you're asking a fairly subtle statistical question that I don't have

the answer to.

ARBITRATOR WERTHEIM: Well, that may be true. But trying to be logical about it, wouldn't it appear likely that a newly added program category would be in response to, among other things, indications of viewer interest within the system that they're in sufficiently intense to prompt the operator to respond to that?

THE WITNESS: But that's true across the board. That's true for ever signal that's -- presumably operators add signals that their -- that are valued by their subscribers because that's the way they make more money.

And so if the effect you're describing going from such a nothing to something -- you're saying -- if that's important, then it also ought to be the case that going from -- that ought to show up in my analysis as 100 percent increase in a particular category.

It's the same qualitative -- you're saying here's an instance where there's a very large encrust in the programming of a particular type.

Okay, there are lots of instances in this sample in which there are large percentage increases in the program of particular categories.

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And in fact -- and in fact, I -- my analysis then applies weights to those. So there are plenty of instances, plenty of opportunities, for -- at least qualitatively, for the kind of effect you're describing to show up here.

As a technical mater, you can't treat an infinite increase. But there are 50 percent, 75 percent, 100 percent increases in categories. And they'll show up. They'll be in my data. And if they are -- if those are, in fact, highly valued, I will find a high weight for them.

ARBITRATOR WERTHEIM: Thank you.

MR. NEIMAN: Those are all the questions I had.

CHAIRPERSON JIGANTI: Thank you, Mr. Neiman.

You may proceed.

CROSS EXAMINATION

BY MR. STEWART:

Q Good morning, Stan. For the record, I'm John Stewart on behalf of the National Association of Broadcasters, and we're representing the category of programs you call local in your analysis.

A I understand that.

Q Let's start with back at first principles.

Is it your testimony that your study measures actual cable operator behavior, is that correct?

A That's correct.

Q And let's put that into context, if we can. First, do you know how many channels a typical cable system offered in the period 1990 through 1992, how many channels of programming?

A Not offhand.

Q Do you have a guess or an understanding as to the order of magnitude?

A What period are you talking about?

Q '90 to '92?

A Forty to 50, something like that. I'm not certain.

Q Forty or 50. Let me just show you for your information. These are just a couple of pages from the 1991 edition of the Television and Cable Fact Book published by Warren Publishing which has been referred to in these proceedings and back here on page C389 we've got a chart showing, that's labeled channel capacity of existing cable systems as of April 1, 1991. Do you see that?

A I do.

Q The top two channel capacity categories, 54 channels and over, and 30 to 53 channels and over

represent systems that serves something over 90 percent of all subscribers as of that middle of 1991 period, correct?

A As of April 1, 1991 to be precise.

Q So do you think --

ARBITRATOR WERTHEIM: What were the classes that you referred to?

BY MR. STEWART:

Q Why don't you read the first two lines and the percentage of total subscribes in those systems?

A Well, this says that as of April 1, 1991, systems with a channel capacity of 54 channels and more served slightly over 28 percent of all cable subscribers, I guess, and systems between 30 and 53 channels, capacity, by the way. This is not necessarily amount of programming. Presumably, it's their physical capacity. They represent slightly almost 64 percent of all the subscribers, is that correct?

Q Let's not be too precise about this, would it be fair if we're discussing a cable system in this time frame to talk about a system, a Form 3 system that provided 40 channels of programming?

A This is a hypothetical?

Q I'm trying to put a practical, put this in

a practical context. Do you think that would be fair to talk as a representative Form 3 cable system in this time period given the numbers you just read about a system that provides 40 channels of programming?

A It's the right order of magnitude.

Q Right order of magnitude. All right, I'm going to try to again just for illustrative purposes draw a picture of such a thing by indicating 40 channels.

A You've got a long way to go.

Q Yes. I think that's about 40 boxes, right? Now, would you turn to the very last page of your written testimony, please?

Table 3.

(Pause.)

A Yes, I have it.

Q Okay, now that says over in the far right hand column, by the way, where did the information come from for the far right column?

A I -- probably from Cable Data, but I'm not certain.

Q Cable Data Corporation is the company that Tom Larson runs that provides data about -- based upon statements of the copyright office?

A Correct, I don't guarantee that, but I

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1 believe that's the case.

2 Q And do you remember -- I see in your

3 testimony you talk about this being a weighted average

4 across all accounting periods, so you measured '88 to

5 '92.

6 Is that correct?

7 A That's correct.

8 Q So for the universe over on the right hand

9 column that was for Form 3 cable systems?

10 A Correct.

11 Q Over that period generally. And you show

12 there an average number of distant signals of 3.45?

13 A That's correct.

14 Q So in this rough example of cable system,

15 my representation of a cable system, I've drawn up

16 here on the easel it would be marked in 3 or 3.5 of 40

17 channels, that would be a representation of a typical

18 number of distant signals carried by Form 3 systems in

19 this period?

20 A Again, there might have been some changes

21 between '88 and '92, but good enough for Government

22 work.

23 Q In general, changes were in the downward

24 direction, is that right?

25 A Changes in?

1 Q During the period '88 through '92?

2 A The trend capacity would have been

3 growing, I guess, during that period.

4 Q But average number of distant signals was

5 declining or not?

6 A I'm not certain.

7 Q Now the number directly above the 3.45 is

8 the number of broadcast signals, do you see that?

9 A Correct.

10 Q Now is that including the distant signals?

11 A That, I don't remember.

12 Q Let's assume that it is just for this

13 purpose. That would mean that an average in

14 representative Form 3 cable system devoting roughly

15 three channels to distant signals would have roughly

16 another seven local signals, correct? That is other

17 broadcast signals that weren't distant signals are

18 local signals?

19 A Correct.

20 Q So I'm just drawing a box around seven

21 more channels here.

22 Now, the rest of these 40 channels, do you

23 know roughly what would be a typical number of pay

24 services, pay channels like HBO offered by a cable

25 system here?

1 A A small number, half dozen on average.

2 Q Okay, so let's indicate that down here at

3 the bottom, one, two, three, four, five, six. So

4 these would be the pay services.

5 A Does it make any difference here -- you

6 have 40. I just want to know where you're going.

7 Q No, I'm -- we could do this all in word

8 descriptions.

9 A Before you were very careful about making

10 sure you wanted to have 40, but it's roughly 40.

11 Q Yeah, and they're not all the same size.

12 A I appreciate that. I just want to know

13 how precise we're trying to be.

14 Q I think I've got 40 up here. I've counted

15 them as we went along.

16 A Oh, you did. Good.

17 Q If I don't --

18 A I couldn't tell. I thought you were just

19 approximating, that's fine.

20 Q I was trying to do exactly 40. It might

21 be 36 here, but that's a good number too, isn't it?

22 A Sure.

23 Q This will just give us a general idea.

24 Now the remaining channels in between the broadcast

25 stations, both distant and local, and the pay services

1 are what's typically sold as a package by a cable

2 operator as basic cable service, is that right?

3 A Package or packages.

4 Q So there might be more than one package of

5 basic cable service, right?

6 A Right.

7 Q Have any idea -- that's something that's

8 referred to as tiering of the cable system, is that

9 right?

10 A Well, I always think of it as offering a

11 basic service, either an enhanced or expanded, so

12 other than idle channels, given the way we define

13 things, the programs that are in there are going to be

14 either in the basic or the enhanced basic tiers.

15 Q Okay, but some number of these channels in

16 between here would be occupied by such things as ESPN

17 and CNN and American Movie Classics, the cable

18 networks that are typically operated as part of a

19 basic cable package. Is that right?

20 A The basic package again, with the caveat

21 there might be more than one such tier.

22 Q Well, do you know whether the broadcast

23 stations offered by the system are typically

24 distributed among different tiers?

25 A They're typically in the first tier.

JSC WRITTEN REBUTTAL STATEMENT

Q Okay.

A The point is the other signals are -- some of them can be in the first tier and some can be in other tiers.

Q Let's talk about what the first tier is like. Do you have any idea what on average total number of channels were offered in the first year?

A It would depend on the system. I'm not certain. Probably at that point perhaps not all of them would be filled, but probably most of them would be filled with something.

Q Most of these channels would be filled with cable networks that were offered as part of the first tier?

A No. Most of them would be filled with basic services, whether they were part of the basic tier, first tier or not would depend on the marketing strategy of the operator.

Q I'm trying to get to what the first tier would be?

A I think again it depends a lot of which cable system. Some have the habit of offering fairly skinny basic services and some have the tendency to offer almost all of the programs in a single basis. It's hard to be generic about it.

Q So some would offer, I guess, 40 minus 6, just to use our rough average here or let's see, as many as 30 channels as part of that first tier basis?

A Unless they have some idle channels.

Q Okay, but in any case, the basic package would be some, typically some combination of the broadcast stations and the basic cable networks, is that right?

A That's correct. Conceivably could include local government or public educational channels.

Q Some special local origination or --

A Or so-called PEG channels, public, educational, governmental channels. They would typically be in the basic, excuse me, in the lowest tier.

Q Lowest tier, first tier basically, right? And that first tier basic is offered for single price, single per subscriber per month price, is that right?

A That's right.

Q Now, I want to go back to a sort of paradigm or simple case that you describe in your testimony as a way of understanding what it is that your study measures.

Let me write down here a cable operator, this is going to be a Form 3 cable operator, in two

accounting periods, an accounting period 1, and these are the six month semi-annual accounting period. Is that fair? Those are the units that you use?

A That is correct.

Q Accounting period 1 and accounting period 2 is the next one and in accounting period 1, this cable operator carried distant signal A and B and in accounting period 2, he carried A, B and C. Okay? Is that clear?

A It is.

Q Now, your description of your study focuses on the decision that that cable operator made to purchase signal C, correct?

A Add distant signal, purchase is a fair characterization.

Q And again in the simple case, what we would expect is that this cable operator's royalties would go up because he added a new distant signal?

A Right.

Q And that the programs, I'm going to assume that this program as -- we've been assuming in some of your discussions, this channel C includes movies and series, sports, devotional and what you call local programs, all of them?

A That is correct.

Q So in terms of what he adds, by purchasing C, you would expect movies and series to go up because there's some new ones there, sports to go up, devotional to go up and local to go up?

A With one caveat of course. A and B could be changing their programming during that same period.

Q Exactly what I'd like to discuss because that's the way you did your study.

I want to try to understand clearly the simple case, the paradigm.

A That is a simple paradigm.

Q Okay, he buys the signal and increases the amount of space --

A Did you say "bias"?

Q "Buys."

A Oh, "buys", sorry.

Q When I say "bias" I'll say it really loud.

(Laughter.)

Okay, he buys the signal.

A It still sounds like "bias."

Q He purchases C. He spends more money. His royalties go up and for that he gets an amount of each of these, an additional amount of each of these for program categories that appear on commercial distant signals, all right?

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Now, let's look at what the cable operator actually does. When does the cable operator make the decision to purchase signal C on this example that I'm giving?

A Some time between time period 1 and 2.

Q Well, time period 2, let's make this within the same calendar year. Time period 2 begins on July 1.

A Time period --

Q Time period 2 begins on July 1, okay? When does he make the decision to purchase signal C with relation to July 1?

A Effectively I treated it as if he makes it on the first day of time period 2.

Q He makes it no later in any case than the first day of --

A I assume he makes it at the beginning of time period 2. It would be, I guess, it would be silly to do it at the end of time period 2 because you'd pay more for the whole period and you wouldn't get the signal at the beginning. It seems a reasonable assumption.

Q Did you observe whether cable operators decided to purchase and added distant signals in the middle of the accounting periods at any time other

than --

A I believe the way the data came will not permit that distinction to be made.

Q Okay. Now when does the cable operator pay the increased royalties for signal C?

A I think he pays it starting in the period for which signal C appears in the complemented distant signals.

Q He pays -- when does he actually write the check for it?

A I'm not certain.

Q You don't know?

A No, I don't know for sure.

Q Does that make any difference to your analysis?

A What I care about is how much he has to pay in period 2. Paid for those signals carried in period 2.

Q Okay, now how does he know how much he's going to pay for signal C?

A Well, he actually doesn't know it until the end because he doesn't know what his total royalties, total revenues are against that number generated. He makes an estimate of it.

Q And that's because, I don't want to have

any trick questions here, but that's because he doesn't pay for it until period 3, isn't that right?

A You mean he actually writes the check in period 3?

Q Yeah.

A Based on what happened in period 2?

Q Yeah.

A Yes.

Q That's because cable operators, Form 3 cable operators pay their royalties through statements of account they file within a few months after the end of the period in which they carry the distant signal, correct?

A Is your point that the payment is made after the end of period 2?

Q Yes.

A It seems reasonable since he won't know what his total royalties are until the end of the period. You want to know the base against which the calculation is made until the end of period 2.

Q Right. And he both figures that out ultimately out and writes the check some time in period 3, correct?

A I'm not aware of the mechanics of this.

Q You're not. All right, now --

CHAIRPERSON JIGANTI: Mr. Stewart, maybe this would be a good time to take ten minutes?

MR. STEWART: Fine.

CHAIRPERSON JIGANTI: We'll take ten minutes.

(Off the record.)

CHAIRPERSON JIGANTI: You may proceed, Mr. Stewart.

BY MR. STEWART:

Q Dr. Besen, first I want to report that I used my break time profitably and there are exactly 40 rectangles on the board.

A Did you correct it?

Q No, I got it right the first time.

(Laughter.)

Will you turn, please, to page 9 of your testimony.

ARBITRATOR FARMAKIDES: Well, let's not forget, they were not to scale.

(Laughter.)

THE WITNESS: I'm on page 9.

BY MR. STEWART:

Q Okay, take a look at the middle paragraph there, if you would. In that paragraph you discuss the choice you made to analyze changes in payments and

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1 programming for that matter in between the accounting
2 periods, correct?
3 A That's correct.
4 Q You say there that in the last sentence of
5 that paragraph that the primary benefit is you don't
6 have to control for the effects of many factors that
7 may affect royalty payments. Do you see that?
8 A I do.
9 Q And then you say because they are not
10 likely to change significantly between the accounting
11 periods we analyzed, is that correct?
12 A That's correct.
13 Q Now factors that affect royalty payments
14 may be significantly different between different cable
15 operators, correct?
16 A I'm not sure I heard the question.
17 Q That is, you say that for any particular
18 cable operator the factors that might affect royalty
19 payments in your view are not likely to change
20 significantly between period 1 and period 2, using our
21 example, is that right?
22 A That's correct.
23 Q But the factors that affect the amount of
24 royalty payments may be significantly different
25 between this cable operator and another cable operator

1 in the same period, is that right?
2 A That's correct, but the analysis takes
3 that into account.
4 Q I want to get to your analysis in a
5 moment, but let's talk a bit about sort of hedonic
6 analysis, the study you've given us here is an example
7 of an hedonic analysis?
8 A It can be thought of in those terms, yes.
9 Q And is it correct that an example of a
10 place where hedonic analysis might be used is in the
11 housing market, where you have a lot of different
12 houses, each of which has different combinations of
13 attributes, like number of bathrooms, number of --
14 size of the kitchen and the like that are being
15 purchased by different people at different prices, is
16 that right?
17 A That's correct.
18 Q A hedonic analysis would take, would
19 attempt to take the information about what attributes
20 are bundled in each house and the price that's paid
21 for each house within the same market, that is all at
22 the same time, people buying all different kinds of
23 houses at roughly the same time and would then do a
24 regression to try to tease out or extract the value of
25 say an extra bathroom, is that right?

1 A That's correct, yes.
2 Q Now, that's not what you did though,
3 right?
4 A It's what I did in principle. In
5 practice, it's more complicated to do it for reasons
6 that I've indicated.
7 Q In other words, you could have taken
8 period 2, that might have been the first accounting
9 period of 1990 or the second accounting period of 1990
10 and looked at what each -- all of the different cable
11 operators were paying for the packages of programming
12 on the distant signals and done a hedonic analysis to
13 try to extract the value of the different programming
14 components in that fashion, is that right?
15 A I'm sorry, would you repeat?
16 Q You could have done that kind of hedonic
17 analysis we talked about with the houses in this
18 context. You could have just taken a single period,
19 1990-2 and you could have looked at all the different
20 cable operators buying signals in that period and the
21 different prices they paid for the different packages
22 of distant signal programs and have done a hedonic
23 analysis to figure out the value of the program
24 component, the relative value of the program
25 component?

1 A Except if you did that, you'd have to
2 control for a myriad of other factors.
3 Q Okay, now that's exactly where I want to
4 go next. If you took, let's translate this over to
5 the -- back to the housing market. If you did an
6 analysis of the price people paid for the houses they
7 purchased, compared with the price they paid for the
8 last house they purchased, that is the change in the
9 price they paid for houses and the change in the
10 components of those houses, the two houses they bought
11 last, the one they buy now. Would that be an
12 appropriate way to do a hedonic analysis?
13 A I haven't thought very much about it.
14 Q But wouldn't that -- suppose you have some
15 --
16 A Wait. Again, as you're well aware, the
17 reason that I did it the way I did it here was to
18 avoid having to deal with all those other factors.
19 Q Yeah.
20 A So if, in fact, you could easily take all
21 the factors into account, there wouldn't necessarily
22 be a particular reason to do it in this sort of first
23 difference or change form.
24 Q But if you did, let's just using the
25 housing example, if you considered the change in the

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price people paid for their last house, versus the price they paid for this house, you might, in fact, be measuring rather than the value of the different components, the change in their own demand for components. Isn't that right?

A Now remember, we're trying to get at the relative value of the components.

Q Right.

A So the assumption is the relative value of the components are the same between the two. That's what -- if you did it in change form, you're assuming -- any kind of hedonic estimates a set of coefficients which are like the common weights applied to those components.

In your original example where you did it for a large number of houses and you estimated a regression using house purchases for different people on these components, you would get sort of a common number for -- in your example, the value of another bathroom.

Q Okay, but what if the purchaser was purchasing a new house because he had started a family and had more children and had different demands than when he bought his first house? Wouldn't your analysis based on change in price be measuring his

change in demand?

A It would depend on whether those other factors would change it, the other reasons for wanting to change houses. He may have just decided he prefers bathrooms to bedrooms.

Q Okay. But if instead of looking at all of housing purchases that occurred at the same time, you look at the changes between last housing purchased and current housing purchased, you run the risk of the results are going to measure not the relative value in today's market of an extra bathroom, but the change in people's demands for bathrooms as there are other requirements that change?

A It would depend, as it does in this analysis, on the other factors that might be going on here and again, the reason for looking at period to period changes was to try to, as best one could, be certain that the changes that were occurring in other things are small.

I didn't look at changes between 88-1 and 92-2 because I would have worried there that the other variables that were changing, that the assumption that they were in fact not changing very much would have proven.

Let me just sort of add one thing. This

also explains when we focus on changes. The idea of focusing on changes is to try, as the last time, to be sure that the effects of the variables that we're interested in are big because we're adding distant signal relative to the other things, so it's a combination of focusing on changes and focusing on periods that are close together. The purpose of that is to try as best one can to make sure that the effects we're measuring are, in fact, your example, the value of the bathroom and not the value of the changed circumstances.

Q Okay, and I don't want to quarrel with you about your purpose for doing so. I want to look instead at the effect. It is possible, is it not, that when you look at, when you do your analysis based on change, that you, what you're capturing is not the relative value of the program categories on all these signals purchased during 1990 and 199 -- through 1992, but instead some measure of changes in demand function by the individual cable systems that turn out to change their distant signal configuration?

A I guess I don't think that's very important and the reason I designed the study I did was to design to minimize the likelihood that that effect would occur.

Q In what ways?

A The two ways I just described, focusing on changes, the perturbations -- I'm sorry. There are large changes in the program of the distant signals being carried which is a variable I'm interested in. And periods that are relatively close together in time so the other variables aren't changing very much.

Again, if you recall, we did a separate analysis designed to deal with that, hampered as it was by the limited amount of data as the so-called Fact Book study.

Q I want to get to that too. Let me back up first to my much maligned drawing, 40 rectangles.

Among the things that you were able to avoid having to deal with, were first the configuration on the particular cable system of what local stations would carry, is that right?

A That's correct.

Q And any changes in local stations between the periods that you were discussing, you didn't have to look at that or you didn't look at that, is that correct?

A That's correct.

Q Except for the Fact Book analysis that you just mentioned, didn't have to consider any carriage

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1 patterns or changes in the cable networks, the basic
2 cable networks offered as part of this --
3 A Yes, with one obviously important
4 exception. You recall that when there were very large
5 changes in the basic royalty rate, the basic
6 subscriber rate, we were concerned that there were
7 substantial re-tiering that had gone on or maybe
8 substantial additions of additional services and so I
9 deleted the observations where there were very large
10 changes in basic royalties. Again, I tried to
11 minimize the likelihood that the effect we were
12 talking about was important.
13 Q You selected in making those deletions,
14 you selected them based on actual change in royalties,
15 not on any analysis of the individual cable systems as
16 to whether they actually had re-tiered or not?
17 A That's correct.
18 Q Now, did you also -- did you take into
19 effect, for example, whether the price of one of the
20 distant signals, let's say WTBS, the actual price was
21 affected by whether the cable operator was offered a
22 discount on one of his cable, basic cable networks, if
23 he carried WTBS?
24 A I'm sorry, I'm not sure I understand.
25 Q There was testimony in the proceeding

1 earlier from a representative of WTBS having to do
2 with an arrangement whereby the Headline News Service
3 for some cable operators would be offered at a reduced
4 price if the cable operator also carried WTBS as a
5 distant signal.
6 A During which period was that?
7 Q During the relevant period, during the
8 period 1990 to '92?
9 A For many systems?
10 Q I don't know the answer to that, but if
11 there were any such system in your analysis, you
12 wouldn't have considered that a factor, would you?
13 A No.
14 Q And similarly, you didn't consider
15 separately in your analysis whether the -- what the
16 particular royalties that were being paid, what the
17 particular rate, I'm sorry, at which the distant
18 signal being added was paid for, is that right?
19 A All I cared about was the total number of
20 dollars involved.
21 Q Okay --
22 A Actually, the total number of dollars
23 translated into a percentage of change terms.
24 Q Okay. Now the one time, one analysis
25 you've referred to here is the Fact Back analysis, you

1 took a look at that and that -- tell me if I'm
2 correct, take a look at the question of whether when
3 the distant signal was added or dropped between
4 periods within roughly the same time frame a cable
5 network was also added or dropped, the effect that
6 might have overall, revenues and on royalties, is that
7 right?
8 A Well, the purpose was to see -- actually,
9 that's not quite right. The purpose was to see
10 whether if it was added, if there were substantial
11 additions or additions of non-distant signal
12 programming, that is basic or basic cable program
13 services, or other cable program series, whether that
14 affected the relative values attributed to the four
15 categories of programs we're talking about here.
16 I was interested in whether or not, if I
17 introduced those variables, the estimates of the As
18 and the Bs in the previous analysis, the shares, would
19 those be affected by the inclusion of variables that
20 reflected additions of other types of program
21 services.
22 Q And just to be clear, this whole package
23 of distant signals, local stations and cable networks
24 is offered for a single price, right? Forget the
25 tiering issue now. I put the tier down here.

1 A I'm sorry, you're saying ignore -- if it's
2 an expanded basic tier, we're to ignore it?
3 Q I think so, yes. I just want to talk
4 about --
5 A You're talking about the tier that
6 includes the over-the-air broadcast signals and the
7 distant signals, the first tier?
8 Q Right. If that sold for one price and
9 roughly, if you multiply that times the number of
10 subscribers who subscribe to it, you'll get the dollar
11 amount, the revenue amount against which the distant
12 signal royalties are calculated?
13 A That's correct.
14 Q So that what you looked at there if this
15 package that's being offered, not only includes a
16 different distant signal, but also includes different
17 cable networks, whether that would affect the overall
18 revenues which then gets translated into royalties?
19 A I'm sorry, the question just went a couple
20 sentences too long.
21 Q I don't want to give you an open
22 invitation to criticize my --
23 A I'm not, I apologize. I'll try to follow
24 it more carefully.
25 Q Because the cable operator -- step back.

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Because the royalties, the change in royalties to pay for the distant signals is affected by revenues from the sale of a package that includes not just distant signals, but also local signals and cable networks, it is possible, is it not, that the effect you see in the change in royalties is related to changes in this group of other, of non-broadcast station service that are being offered as part of the same package?

A Yes, and I attempted to minimize the extent to which that contaminated, if you like, the relative weights ordered to the various program categories you were interested in by essentially eliminating the observations that were, where there were really big changes in basic subscriber fee. For example, a major re-tiering could have the same effect. We wouldn't want that to contaminate. So I tried to take care of that directly. I'm sorry, I should say "indirectly" by seeing what difference it made to eliminate observations where there were really big changes and I didn't see very much effect. I conducted with the limitations that I described in the report, I conducted the Fact Book study.

Q Okay, and there you were hampered somewhat by not having data on what nonbroadcast services were offered by the cable operators in each of the periods?

A The Fact Book is a wonderful source of information. It contains -- everyone uses it. But the difficulty is if you try to use it to find out what a cable system is carrying at any point in time, you open up the book for 1992 you may well find for some systems the latest information you have is for 1987 which obviously would not be very useful to you. So I was severely hampered in carrying out the Fact Book study because I couldn't easily get the program lineups for the cable systems that I was interested in. That has about 35 observations, but I carried them back to the analysis and I recorded the results.

Q And that's recorded on page 37 of your testimony? Will you take a look at that, please?

A I thought you might like those results. Yes, I have it.

Q For that, first of all, the fact that you could only reliable measure this effect for 35 of your observations is one of the reasons why you didn't do the other kind of hedonic analysis. Is that right?

A Well, in effect, the other -- yes, that's correct. Exactly.

Q Because when you looked -- because you would have had to have this data for all cable operators in order to do a valid analysis of the

effect of changes in other parts of the package?

A That might not have been sufficient, because there may have been other variables that were affecting it, other than simply the program lineup. So there's potentially a very large number of things you'd have to control. That seemed a very formidable task.

Q All right, and in this analysis, you already alluded to, unlike the other alternatives you presented, the share for local programming is up to 8.9 percent, correct?

A That's correct.

Q And in the footnote you describe, that for one alternative of this Fact Book analysis, that share, let's say was a significant measure. Is that correct? Is that a correct reading?

A I'm sorry, will you tell me --

Q Look at footnote 53.

A I'm looking at it. What sentence?

Q In the case of the 10 month screen, do you see that?

A That's correct, yes. Let me just add one thing and I want to make sure I check myself here. We also conducted a Fact Book analysis for the period, I believe, 1990 to '92, and we don't do an effect for

these other factors. The other factors have an effect, but in the analysis it looks at the entire period that was analyzed. If you confine it to the 1990 to '92 period, I believe it's the case, in fact, the Fact Book study doesn't make any difference.

Q Okay.

A But you're quite right.

Q And it sort of stands to reason, doesn't it, that if cable operators offering a package, let's just say 20 or so channels as the first tier basic, of which three are distant signals, that whether or not he makes changes in the other 17 channels would have an effect on his revenues, on the price he can charge and on how many subscribers subscribe to it.

A Actually, the more relevant point is the effect it might have on the relative value of the other -- if there are other kinds of programs.

Q The relative value in this context means the extent to which an additional program or let's call it an additional program unit on a distant signal adds to the value, that is, makes a change in his revenues and therefore his royalties?

A Correct.

Q So it stands, it makes perfect common sense that if you make a change down in this part,

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you're going to add, you have the potential to add value that's reflected in your revenues as part of this package.

A As I said, we made various attempts to deal with it. Again, look at instances,let's not forget what our task is. The task is to get the relative values, relative shares of the four categories of programs that we're talking about here.

One thing we did was look at change, so that is a big effect, hopefully a big effect relative to other things. Looking at periods close together in time, eliminating observations where it would appear there might be other things going on that are driving the changes in royalties, that is the large change, in particularly the large change in basics fee and the Fact Book study.

Q Okay.

A I did a number of things, the purpose of which was to try to see whether that was a serious problem and to deal with it. To correct it, to see that it wasn't a serious problem.

Q From the perspective of our program category, when you were able for the limited number of observations in which you were able to control for the effective number of changes on this part of the chart,

the cable networks, the share that you measured, the contribution to overall value of what you call local programs on distant signals was positive, significant and you estimated it there at 8.9 percent?

A That's correct. I'm sure Mr. Lane would like me to explain, however, that the share with respect to his client, isn't affected very much, so you gain at the expense of the other two claimants.

Q Okay.

ARBITRATOR WERTHEIM: Dr. Besen, in that same footnote, 53, if you take another look at it, your last sentence including these variables does not make your resulting shareholders that go outside the range, described in the text, what are you referring to here?

THE WITNESS: I think it means roughly the same as the numbers that appear in this table.

ARBITRATOR WERTHEIM: On that same page, you're not talking about the range from the confidence intervals?

THE WITNESS: No, no. This is, this concerns the question of the way the Fact Book data are compiled and again, since you don't have generally contemporaneous data on the other programs carried by each cable operator in the Fact Book, we had to ask

ourselves the question how far away from the point of observation we were wiling to taking information about the other program services being carried as relevant.

ARBITRATOR WERTHEIM: Well, that's what I'm getting at, how far were you willing to --

THE WITNESS: Well--

ARBITRATOR WERTHEIM: You say the range, I take in the movies series you show 8.2, so is your range between 7 and 9 for that or what?

THE WITNESS: I'm sorry. You're asking the question if I use a different screen other than the --

ARBITRATOR WERTHEIM: No, I'm asking the question of what specifically is the range referred to in your footnote? Is it in the range of those described in the text?

THE WITNESS: Maybe that's not artfully written. I think it produces results that are similarly described in the text.

ARBITRATOR WERTHEIM: Well, how similar?

THE WITNESS: I don't remember.

ARBITRATOR WERTHEIM: I mean, if it produced any results for movies it was .7?

THE WITNESS: Oh no.

ARBITRATOR WERTHEIM: Do you consider that

significant?

THE WITNESS: I would not have written the sentence this way, if that were the case, but I don't remember. I can supply you with numbers. I just don't have them with me.

ARBITRATOR WERTHEIM: Thank you.

CHAIRPERSON JIGANTI: Dr. Besen, was this formula produced on discovery to all the parties?

THE WITNESS: The method used, yes.

CHAIRPERSON JIGANTI: The method used?

THE WITNESS: I can't remember now whether they specifically requested it. If they had, they certainly would have gotten it.

CHAIRPERSON JIGANTI: The elimination of certain factors here, you said if they were broader than -- if there were bigger changes than you would expect, you eliminated them from your survey?

THE WITNESS: That's specifically described in the text. Let me go back. We used a number of so-called filters.

CHAIRPERSON JIGANTI: Yes.

THE WITNESS: One of the filters was any observation where the basic subscriber rate changed by more than $1 a month in real terms was filtered out as described in the text. It's filtered out in the

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analysis. So the basic equation here, in fact, has those observations deleted. You go over to the no filter column. In that analysis, those observations were, in fact, included. You actually, for some purposes, you don't get much difference, but within and without that filter, but there was no need to do that on discovery, that particular methodology is described specifically in the text of the report.

CHAIRPERSON JIGANTI: Okay. Thank you.

ARBITRATOR FARMAKIDES: Dr. Besen, have you used this methodology frequently?

THE WITNESS: Which methodology?

ARBITRATOR FARMAKIDES: This one that you have here that you used for this particular purpose?

THE WITNESS: The hedonic? I have done lots of statistical analyses. I'm not sure I've ever done something that's actually hedonic. I've done, I guess the closest thing that I've done is a fair amount of analysis of something essentially similar which is looking at the contribution of various kinds of productive inputs to the output of a firm, at one point when I was much younger, I did an analysis or several papers, published papers, that analyzed the relationship between labor and capital inputs to a firm and its output, which we're essentially talking

about here. And in fact, in one of those analyses, I did in fact, do the quality adjustments for labor we talked about earlier. So I had, in fact, done something that is essentially the same as this or labeled it hedonic at the time.

ARBITRATOR FARMAKIDES: I read in your testimony, and I was wondering why there is a disparity, of course, between the results that you came up with and the results of Mr. Bortz, Dr. Bortz. And the thought crossed my mind what made you approach the problem from your point of view in the way that you've just done it, rather than using the constant sum point of view, if you will, or methodology?

THE WITNESS: Well, I think as I indicated very briefly in here, the shortcoming, seems to be the major shortcoming of the Bortz analysis is that it basically asks people their opinions of what -- asked to tell you in response to essentially a hypothetical question what their relative values are.

It seemed, as an economist, whenever we can look at actual real world behavior, we do so.

It seemed to me to make immanent sense, however, it's a difficult task here, but I found, identified a methodology which permitted me to answer the very question that you're asking, the relative

values of the programs, the various types of programs on distant signals using essentially real world marketplace behavior, because cable operators have to pay more when they add distant signals.

Once I realized I could do that, then I realized I could back estimate marketplace or relative marketplace values by looking at their behavior. Whenever I have a chance to look at behavior, I always choose to do so. I would never ask somebody for something if I could observe what he's actually going to do in particular circumstances and that's what I did here.

I think one way to think about what I've done here is to say, is to ask if the Bortz numbers are correct, for example, are sports programs as valuable as Bortz says they are, claims they are based on responses to a hypothetical question, that it ought to show up in the analysis that I've conducted and it doesn't. You end up with a much smaller share for sports and a much higher share for movies and series when you look at actual operator behavior than if you look at Bortz' answers, the answers that Bortz gets by asking hypothetical questions to cable operators.

I come out of this with the conclusion that this is what you ought to rely on because this is

based on behavior.

ARBITRATOR FARMAKIDES: The question then that I have is that you weight some of these factors that you considered differently than Bortz -- well, forgive me. Let's restate that.

Bortz and you approached the task, your respective task, when you make assumptions and you add weights in your respective ways. How do we know that the weights and the assumption that you make are valuable, as valuable, more valuable than those that Bortz makes?

THE WITNESS: I think the primary thing that would ask you to focus on one thing. It is, this is based on behavior. We're going to quarrel, I'm sure, for the rest of the day about particulars of what I've done, but it seems to me the results are so consistent across a variety of approaches and the costs are based on real world behavior that this is the -- if you had to rely on a single study here, this is the one you ought to rely on because it's based on actual behavior of operators and their choices and -- yes. It's that factor that seems to me is the distinguishing one between this and Bortz, not the particulars of how each particular study was implemented. The gross difference between them is

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1 this relies on behavior and that simply is answers to
2 questions.
3 ARBITRATOR FARMAKIDES: If we relied on
4 that basis then, how do you explain the fact that
5 there were a number of other economists, statisticians
6 that have been brought as witnesses who agree with
7 Bortz and do not agree with you?
8 THE WITNESS: All I can tell you is I
9 think I'm right. I have a variety of other criticisms
10 of reports that I've made over the years, including
11 the fact that I think the question imposes, even as a
12 hypothetical one, is not well formed. I'm not going
13 to go into that here.
14 I think Mr. Lane has submitted it because
15 it is part of my testimony in previous proceedings.
16 ARBITRATOR FARMAKIDES: You can read it.
17 CHAIRPERSON JIGANTI: Have you written
18 articles on that?
19 THE WITNESS: No, only in this proceeding.
20 Only in these proceedings.
21 ARBITRATOR WERTHEIM: Would it be true to
22 say you could find an economist to support almost
23 viewpoint about anything?
24 THE WITNESS: I hope that's not the case.
25 But I think this is mainstream. If you ask an

1 economist should I rely on hypothetical questions or
2 rely on real world behavior, 999 out of a thousand or
3 maybe all of them would say real world behavior.
4 We're trained to do that. We're trained that in fact
5 the way you find out what people will do at particular
6 circumstances is observe particular circumstances.
7 ARBITRATOR WERTHEIM: Do you think that
8 might be true of standards of medical practice, but
9 I've heard an awful lot of doctors say a lot of
10 different things on very similar subjects.
11 THE WITNESS: I'm making a different point
12 here.
13 ARBITRATOR WERTHEIM: An expert on one
14 side can always be countered by an expert on the other
15 side.
16 THE WITNESS: I'm making a different point
17 here. The pointing I'm making is whether in fact a
18 study that relies on real world behavior is to be
19 preferred to a study that is based on action.
20 ARBITRATOR WERTHEIM: I know what you're
21 saying and I say aren't there very likely economists
22 who could disagree with you about that? You say 999
23 out of a thousand --
24 THE WITNESS: I don't believe very many of
25 them would actually say that, no. I'm not sure the

1 question was posed in that fashion because I haven't
2 been here, but we're trained from, as young students,
3 that in fact, behavior is what, in fact, you want to
4 analyze if you can do so. That's not a --
5 ARBITRATOR WERTHEIM: You wouldn't imagine
6 how many orthopedic surgeons can sit up there and say
7 something very similar about the training regarding
8 standards.
9 THE WITNESS: I don't know a thing about
10 orthopedic surgeons, other than the fact that one has
11 treated me.
12 ARBITRATOR FARMAKIDES: You see, I have
13 this problem and it's a serious problem because the
14 more we look into this and the more we come up to
15 speed in the sense of better and better understand the
16 issues, the more we have a problem with the fact that
17 we have some very imminent economists, statisticians
18 who disagree.
19 THE WITNESS: Well, I think -- excuse me.
20 ARBITRATOR FARMAKIDES: Now I understand
21 and I agree with you that disagrees should be on
22 factual considerations, perhaps, or on the methodology
23 that one would pursue over that of another and then
24 both could be accurate and both could be reasonable,
25 but I'm trying to get a hold here of where your

1 methodology is not accepted by others and where their
2 methodology is not accepted by yours. That's the
3 problem that I've got.
4 THE WITNESS: I'm not sure who you had
5 here and who is still to come. I think I would simply
6 pose to people, particularly economists if they come,
7 and ask them if they had a choice in a particular
8 circumstance between observing actual behavior and
9 answers to a survey to answer a particular question
10 which would they choose?
11 ARBITRATOR WERTHEIM: Isn't that question
12 the very kind of hypothetical question --
13 (Laughter.)
14 THE WITNESS: Touche. I don't think so.
15 ARBITRATOR WERTHEIM: You don't?
16 THE WITNESS: Our training strongly
17 emphasizes the value, the pre-imminent value of
18 looking at behavior. If you look at economic journals
19 what you will find is for the overwhelming majority of
20 the studies that are quantitative, empirical, then in
21 fact, they look at behavior. That's what economists
22 study all the time. It would be unusual for us to do,
23 to ask a survey question when, in fact, we could
24 observe behavior. In fact, it would be remarkable.
25 ARBITRATOR FARMAKIDES: Now that would

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pertain even to the situation where you weight different factors using a behavioral approach, rather than one that is not behavioral and you don't weight anything?

THE WITNESS: I think you may be asking about the particulars of what I've done and as I said, we'll be here, I'm prepared to defend what I've done. I'm sure people are prepared here to criticize it, but that's sort of working within the paradigm that says look at real world behavior. Does it make a difference if we make a different assumption or a different weight, whatever.

What Bortz' analysis does is just goes outside that paradigm completely. It says I'm not interested in what they really do. I'm going to ask them hypothetical questions. That's just a different kind of analysis, not one that I would recommend.

ARBITRATOR FARMAKIDES: I think he's saying something a little different, as I understand it. He's very interested in what they are doing and he's using a survey in order to find out what they've done.

THE WITNESS: No, the survey tells them, I don't believe that's right. I think the question asks them how they would allocate their monies. It's

a hypothetical question. They don't have to allocate real money. They have to tell -- they can tell them anything and they can go home and it accurately reflects the values they place on it and makes no difference.

ARBITRATOR FARMAKIDES: But I understand your profession uses the constant sum technique to do exactly what he did.

THE WITNESS: Actually, I'm not sure that's right. I think economists don't -- well, economists typically don't do what he did. In fact, they rarely do it.

ARBITRATOR FARMAKIDES: Let me ask you this, is the constant sum technique a valid technique?

THE WITNESS: About five years ago, Mr. Lane asked me to survey a paper that was submitted depending the constant sum technique. I think it was by a marketing professor that was submitted in defense of the Bortz analysis.

My recollection of it is fairly dim, but what I do remember about it is that -- this recollection may not be terribly accurate, that in fact many of those constant sum studies, in fact, don't look very much like the Bortz constant sum study. Some of them, I believe, deal with actual

behavior.

I'm not here to attack a constant sum methodology, whatever that might be. I'm prepared to defend the idea of looking at real world behavior as opposed to answer-type hypothetical questions.

ARBITRATOR FARMAKIDES: All right, sir. Thank you.

BY MR. STEWART:

Q Dr. Besen, the real world behavior you're talking about is to use our paradigm of simple case is the decision of a cable operator to purchase additional distant signal programs for an additional amount of money, is that right?

A In effect.

Q In effect?

A Well, he doesn't purchase -- he adds a distant signal and incurs some additional costs and acquires a program that are contained therein.

Q Do you think from a cable operator's perspective the fact that he selects, he decides to add a distant signal and pays a substantial amount of money for this is viewed by him as a purchase decision?

A It is a purchase decision.

Q Have you talked with cable operators to

see, to confirm whether your measure of their actual behavior comports with their understanding of their actual behavior?

A No. This is a device for finding out what their actual behavior was.

Q Even though they think they behaved in a different way?

A I don't know that they -- all we know -- are you referring to the Bortz survey?

Q No, I'm referring to your survey.

A In order to find out what they think, I think you'd have to do a lot more structured questions than the simple questions that Bortz has asked them. So I sort get off the boat earlier than that because I'm not sure they answered the question. It doesn't seem to be even that he's asking the right question in terms of what I'm trying to answer.

If I were going to try to do this, if, for whatever reason and I wouldn't do this, I would go to cable operators and try to find out whether these values are similar, I would, in fact, go through a whole series of structured questions designed to make sure they're answering the same question that I'm answering here.

ARBITRATOR WERTHEIM: How would you find

1 out in 1995 what the decision making process was for
2 decisions made in 1992?
3 THE WITNESS: It's a fair point. I can
4 only do it today. I suppose I could, if they were
5 still around and they still remembered, I suppose I
6 could do that. Yes, that's actually an advantage of
7 this because I observed what they actually did in
8 1992. I don't think you'll find anybody who knew what
9 they thought was the case in 1992.
10 You have to ask the question in a much
11 more structured way if you want to answer the right
12 question.
13 BY MR. STEWART:
14 Q You never ask the questions?
15 A Because I have observation on their real
16 world behavior.
17 Q You say you would never ask someone for
18 something if you could, instead, observe their
19 behavior. I think that's what you said.
20 A If I want to find out what John Stewart's
21 consumption of French wine would do if the price of
22 French wine rose, I'd follow him around and see what
23 his consumption patterns were like, not ask him.
24 Q And if you ask me that and it turned out
25 that I was buying wine for my church and I didn't

1 consume any of it, would your observations of what
2 wine I bought in the grocery store have anything to do
3 with the value of that?
4 (Laughter.)
5 A It would depend on whether you bought more
6 or less wine when, less wine for your church when the
7 price rose.
8 Q Just to be clear here, you didn't at all
9 seek to confirm with cable operators whether your
10 construct was likely to give an accurate reflection of
11 what you call their actual behavior, correct?
12 A I have a model of their behavior and I
13 analyze and estimate the difference.
14 Q Never consulting with the cable operator
15 to get some real world confirmation for that?
16 A I know a lot about cable operators. I
17 know a lot about how business firms behave. It seemed
18 like a reasonable construct.
19 Q Okay, and do you think, Dr. Besen, that an
20 economist might disagree with your assertion that your
21 study actually measures actual behavior?
22 A It might.
23 Q Your particular study.
24 A That's possible. Since the question is
25 that level of generality, it's possible.

1 Q Or that an economist might say that even
2 if what you're talking about here, the change in
3 royalties and the change in program types is some kind
4 of actual behavior that your particular study doesn't
5 measure it accurately?
6 A Someone might say that.
7 Q Okay.
8 A Again, the answer to the previous
9 question, I was asked at that point to distinguish
10 between this study and the Bortz study and it seems to
11 me that the distinction there is between the study
12 based on the answer type questions and a study based
13 on actual behavior, to do a study based on actual
14 behavior.
15 Obviously, I'd like to do the best
16 possible study based on actual behavior which I think
17 I've tried to do.
18 Q Okay, now back to our simple case here
19 with the cable operator adding distant signal C in
20 period 2. You gave an example or an illustration this
21 morning that if a cable operator carried 100 hours of
22 programming before and added 50 hours, that that would
23 be a 50 percent increase in the programming in that
24 category in this hypothetical?
25 A In one of the categories of four.

1 Q So 100 hours of sports and add another 50
2 hours of sports, that would be a 50 percent increase
3 in sports, correct?
4 A That's correct.
5 Q Now can you explain to me how in your
6 study a cable operator who carries A and B, continues
7 carrying two distant signal and then buys a third
8 distant signal could end up with a negative change in
9 a program category, local, for example?
10 If there are local programs on C, how
11 could the change be negative?
12 A It would depend on what you were doing.
13 A and B could have reduced their carriage of local
14 stations.
15 Q Okay, so that even though the cable
16 operator bought a signal that had local programs on it
17 in your survey that's measured as a decrease, if the
18 changes worked out that way?
19 A Again, just to remind ourselves of this
20 morning's discussion, we're trying to value all the
21 programs, not the programs just in the signals that
22 are being added.
23 Q And if the royalties increased because
24 they paid for an additional distant signal, that would
25 then be an inverse relationship in your survey between

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changes in local programs and changes in royalties? Is that right?

A Could be that observation, yes.

Q That would contribute to a negative coefficient overall?

A Actually, it's hard to answer that question because there are so many things going on. I find it difficult to think of isolating that effect on any variable from all other things that have taken place, to answer your question categorically.

Q If you had a lot of these, think that would have a contributing impact for, resulting in negative coefficients?

A I'd have to think about it. I'm not certain.

ARBITRATOR FARMAKIDES: When you say "a lot of these" what are you saying, sir?

MR. STEWART: I'm sorry, a lot of situations that even though the distant signal added local programs, it was measured because of the methodology of the study here as a decrease in local programs because of the changes in A and B.

BY MR. STEWART:

Q If there were a significant number of such examples that might contribute to the negative

coefficient, is that right?

A I think the -- you're focusing too much on the negative coefficient, I believe. I think where I come out is that the coefficient with a weight to be accorded to local programming is small, whether it's actually negative or slightly positive, it's hard to say. It's measured with some error. All I know is based on what I've done it's a small number. It's not a big number. It's a small number in every one of these except perhaps the effect -- I know what small is. It's a number that's usually lower than the number you get for movies and series.

Q But this kind of inverse relationship would tend to drive the coefficient down, whether it's negative or not, it would tend to drive the coefficient down?

A It might. I can't be certain of it.

Q Now let's assume that this particular cable operator somehow found out that on A and B there was going to be a decrease in local programs in the upcoming period and he went out and bought C in order to replace some of those local programs. So local programs were an important part of his decision to purchase C, but he didn't make up all of the loss. He made up part of it. That would produce a negative or

an inverse relationship, is that right, in your study?

A It might. But again, the reason this can happen, the only reason it can happen in this case is that the programming, the amount of local programming on the signal being added is typically small and that's what's going to produce the result. So small changes in A and B and the local programming and B could produce the negative result, the negative estimated negative, estimated reduction in local programming. That simply says this is a very small effect and there's going to be some noise that surrounds it. It's going to be very difficult to extract the information about value of local programming from surrounding noise because its effect is very small.

I think that's the lesson you should take away from this. That's the lesson I want you to take away from this.

ARBITRATOR WERTHEIM: Dr. Besen, what exactly is local programming? We're looking only at changes in distant signal. Does that mean PBS in Atlanta is local?

THE WITNESS: I'm sorry. I'm using "local" here, but I guess it's everything other than the programs in the other three categories. So it could

be, for example, I guess it could be a syndicated news program. I suppose if you had a program like one of the political talk shows in Washington on lets's say 7 o'clock on Saturday evening, if that were to be carried into a distant market, I think that would show up in the local category.

ARBITRATOR WERTHEIM: Would PBS in Canadian be treated as local here?

THE WITNESS: No, these are programs, remember, only on commercial signals. Remember, we're talking about the addition of commercial signals.

BY MR. STEWART:

Q Dr. Besen, the category into which a program is placed important in the context of your study?

A Yes. That is, it's important they be in the categories that the panel is in fact doing allocation with respect to.

Q What's the basis for the description or your understanding of what's in the local programming category that you just gave?

A What I remember from the distant past.

Q So it's your view that what you've measured as the local programming category here includes syndicated programs?

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A I'm not sure.

Q You don't know?

A I'm not sure.

Q Well, isn't that important?

A What's important is that, in fact, they be the programs that the claims are being made for.

CHAIRPERSON JIGANTI: Mr. Stewart, I think we're going to take a break for lunch at this time and we'll resume again at a quarter to 2. Thank you.

(Whereupon, at 12:37 p.m., the hearing was recessed, to reconvene at 1:45 p.m.)

A-F-T-E-R-N-O-O-N P-R-O-C-E-E-D-I-N-G-S

(1:45 p.m.)

CHAIRPERSON JIGANTI: Mr. Stewart.

CROSS (continued)

BY MR. STEWART:

Q Before lunch, we were talking about the way in which your study would measure the change in programming if as a simple example there were 50 hours of programming of a particular category on C, and 100 hours on A and B. That would be a 50 percent increase. But you of course did not use the number of hours of programming as your variable. You used a viewing number. Correct?

A That's correct.

Q Now and that viewing came from the MPAA diary-based viewing study. Is that right?

A That's correct.

Q And it measured viewing on distant signals everywhere throughout the country. Correct?

A That's correct.

Q Not in the community or area or even region where the cable operator deciding on carrying the signal is located. Correct?

A That is correct.

Q Now the last time you were here, you

talked with Mr. Neiman about that point. I want to direct your attention to transcript page 3,664 where we discussed it.

(No response.)

ARBITRATOR WERTHEIM: Would you repeat that number?

MR. STEWART: 3664.

ARBITRATOR WERTHEIM: Thank you.

BY MR. STEWART:

Q And at line five, Mr. Neiman asks you the question, "Nielsen doesn't report those weighted hour numbers. You say that is actually correct?" He then asks the question, "And cable operators can't look into the Nielsen book and see those weighted hours when they are making their decisions."

Would you read your answer into the record, please?

A It says, "They might know something about the viewing on WGN throughout the U.S. and they may know something about the mix of programming on WGN."

Q And then he asks the question, "But they wouldn't have those weighted hours numbers. Right?" Your answer is what?

A I said, "They could calculate them."

Q Okay. Now first let me ask you, how might

cable operators know about the viewing on WGN throughout the U.S.?

A Just general Nielsen sources or maybe just general industry knowledge.

Q Well, does it make a difference whether they know the numbers precisely?

A It may make a difference, but what purpose?

Q For purposes of their consideration of adding an additional signal.

A For their purposes, they might simply just estimate what those numbers are.

Q And what would be the numbers they would be estimating?

A They would be estimating something that would permit them to say something about, if you like, the relative -- speaking loosely here, the relative quality or popularity of the various types of programs on WGN.

Q Is that a ratings number?

A The way I have implemented it, it's a viewing number based on ratings. Yes.

Q Well, let me ask you this. How would a cable operator know about a national ratings number for WGN?

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A He may just be able to approximate it. I'm not sure if it's available through public sources or not. But he may be able to have an estimate of it.

Q I want to hand you a copy of a document that's been introduced already in this proceeding, actually twice. This is a document, Program Suppliers Exhibit 26-X. It's several pages, three pages from the testimony of Program Supplier's witness, Robert Sieber.

Have you reviewed that testimony before?

A No. I have never seen this before.

Q Let me just point you to the fact that these three pages that Program Suppliers also put in as a cross examination exhibit include 1990, 1991, and 1992 figures entitled, "Network ratings in homes served." Do you see that?

A I do.

Q Okay. Now would you find -- and these give an average total day rating figure for various what were termed by Mr. Sieber, cable networks.

Did you find WGN on that, please?

A I believe it's not here.

Q Is it there for --

A I'm sorry. It is for 1992.

Q But not for 1990 or 1991?

A That's correct.

Q Do you know whether Nielsen even published, made available in published form a national ratings number for WGN in 1990 and 1991?

A I do not know.

ARBITRATOR WERTHEIM: Dr. Besen, if you are right that cable operators from general knowledge have some rough knowledge of what you'd call relative popularity for viewing numbers, to the extent they take that into account in making these decisions to add or drop a channel, a signal rather, wouldn't that indicate that they are taking real world facts and behavior in form of ratings information into account in deciding how to respond to the Bortz question?

THE WITNESS: I think those are two completely different things. I would say that if they have that knowledge, even approximately, they can take that into account. That would be reflected in my analysis of their real world behavior.

I have no idea how they chose to answer the questions asked by Dr. Bortz. They may still know this information about viewing, but their answers may nonetheless fail to reflect the true value they place on those programs. There is no inconsistency between those.

ARBITRATOR WERTHEIM: We had a Ph.D. in economics/statistics who expressed a different view on that point. How would you weigh your opinion against his in that regard?

THE WITNESS: I don't know what you are speaking about. I haven't seen his --

ARBITRATOR WERTHEIM: Do I have to tell you in order for you to answer?

THE WITNESS: It depends on what he said. All you said was he would disagree with me. I'd have to know what exactly he said.

ARBITRATOR WERTHEIM: Well, if I recall correctly, he said that he would presume that cable operators have such a general familiarity and take it into account in responding to question --

THE WITNESS: They'd take it into account in their decisions. The question is whether they adequately take it into account in responding to the answers to Bortz's hypothetical questions. That is what I am disagreeing with.

I take it we both agree that in fact they could have this general knowledge. Whether in fact that's accurately reflected in the answers they give to the Bortz's question as opposed to the --

ARBITRATOR WERTHEIM: Is there any way of

knowing that?

THE WITNESS: Well, the way I would -- I guess, yes. The answer I would give is I get numbers that look nothing like -- I believe this is the right way to do the analysis. I get numbers that are nothing like the Bortz numbers. Therefore, I am suspicious of the Bortz numbers.

ARBITRATOR WERTHEIM: Thank you.

BY MR. STEWART:

Q Dr. Besen, if it were the case that for the period 1990 through 1992, national ratings numbers were not published for any stations, any broadcast stations at all except WTBS, and by 1992, WGN, then how would a -- let me start first with, do you know how many different stations are carried as distant signals?

A I'm sure a substantial number.

Q Six or seven hundred?

A I'm not sure.

Q If it were 600 or 700, and if what I just gave you as a premise were correct, that is, that national ratings numbers were not available for any of those 600 or 700 stations except for TBS and WGN, how would a cable operator take into account national viewing numbers in making his determination about

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whether to add a particular distant signal?

A Remember this is information. My premise is the operator knows something about the quality of those.

What I am trying to do through my analysis is to in a sense approximate the knowledge that the operator has by using what are objective information I have.

Q And that included viewing numbers from the MPAA viewing study?

A Correct. I don't directly have that knowledge about what the operators may know. I have information, objective information that may be available.

Q Now the MPAA viewing study is not published anywhere except in this proceeding. Is that right?

A That's my understanding.

Q And is it your understanding also that it does not provide ratings numbers at all?

A It provides viewing hour numbers.

Q Viewing hour numbers, okay. But that's not ratings, is it?

A I guess you could -- I'm not sure, I guess you could calculate ratings from it.

Q Do you know what a rating is?

A A rating is a percentage of households with the television set in a particular area that's in fact watching a program at a particular point in time. That's a rating point.

Q How would you convert the MPAA viewing study numbers into a rating?

A I guess you would have to divide by some number, which told you the number of households with television sets in the areas being surveyed.

Q And what areas would those be for?

A It would depend on which particular stations we're talking about, I suppose.

Q Differ station by station?

A They would differ by station by station.

Q Where would that information come from?

A I'm not certain.

Q If we just take a look at this cable operator in a real world situation, and assume that the cable operator is interested in knowing about viewing. Wouldn't it be the case that he would look at local viewing to the programs on A and B if he already carried them in his own market?

A If he had that information, he might.

Q And in fact, the viewing to programs on A

and B in his cable community might be substantially different from viewing patterns on A and B throughout the country. Correct?

A They could be. I used it because it's the only data I had. I used the national patterns to do the weighting.

Q Next, do you know when, if a cable operator were interested in considering some kinds of viewing information in deciding whether to -- in making that purchase decision whether to add C or not, when would he have ratings data?

A Well, he'd have ratings data for a -- I'm sorry. Repeat the question. I'm sorry.

Q When would he have ratings data available for A, B or C?

A In which area?

Q Let's look at this. If in accounting period one, he carries A and B, he makes a decision sometime before or by the first day of accounting period two to add C, when would ratings data, viewing data be available for A, B and C?

A Presumably sometime after the start of period two.

Q After?

A Well, you can only have ratings data after

the viewing has actually occurred.

Q Right. But your analysis -- so he would know, he could know, if he were interested, the viewing information about A and B in period one at some point either late in period one or early in period two. Is that what you think is the case?

A He could.

ARBITRATOR WERTHEIM: Couldn't he also know the viewing data for Channel C? Not from his own system, but from other systems.

THE WITNESS: Yes. Presumably he would know something about -- like any other economic decision, he has to make in some sense a forecast of a number of things, including, what they are going to carry, how popular it will be, et cetera. He has to make that decision. We all make decisions under uncertainty. He will only later learn -- the presumption is, he does the best job he can trying to forecast what those numbers might be, obviously with the usual difficulties of doing so.

In effect, what I have done is to say that what in fact he uses to make -- he in effect has I guess we would think of as unbiased forecasts of those numbers. That on average, he'd get about right, by which I mean about the numbers that I get.

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BY MR. STEWART:

Q So let me make sure I understand this. You don't in your study compare viewing to A, B and C in period one, which is knowable as of sometime late in one, with the royalty increase that comes about after you add C in period two. Correct?

A It is contemporaneous. We did a study in which we -- we did it on a lag basis. It didn't do very well. This explains things much better using contemporaneous. Which suggests that in fact, they do a reasonable job of forecasting those ratings or viewing or quality, if you like.

Q So a cable operator, considering whether to add to C, it is the premise of your study that the cable operator in making a determination about whether to purchase C somehow takes into account a projection of viewing in the upcoming six month period and the degree to which that has changed since the last six month period?

A But that's not any different than what the cable operator does for example, if he decides to carry ESPN. He doesn't know what ESPN is going to carry in the next period. But nonetheless, he pays the program service an amount based on his best assessment of the value of that program to him, even

though he doesn't know with great precision what it's going to be or how good it's going to be. That is true of any cable program service that he carries.

Q But your study takes whatever turns out to be the actual viewing in period two, calculates that as a percentage change in programming from period one, and then compares it with what the cable operator actually paid for adding C. Is that right?

A That is accurate.

Q Okay. Now just as an aside here.

A Actually, he compares it to the percentage change in royalty payments as a result of carrying C.

Q Right. As an aside here, the Bortz survey asked information from cable operators about programs that they had carried already in the prior year. It asks the question, at the end of the second period and into the beginning of the third period, so it was something they could base on something they had actually already done, as opposed to making the forecast.

A Except for the fact that of course all economic decisions are made in advance. It's not clear in this case that hindsight is actually an advantage. You actually have to make the decision in advance without actually knowing what they are

carrying, as we all do about lots of things.

ARBITRATOR WERTHEIM: So does the Bortz question number four mean more hypothetical than that?

THE WITNESS: What Mr. Stewart is saying is that it's not hypothetical in the sense that they knew what programs they were carrying.

My point is that it's hypothetical in the sense that it doesn't say anything -- they could give any answer to any question they like. It doesn't affect anything about the way that cable system performs.

When they decide whether to pay additional copyright royalty, that's a real decision. They put down real money when they do that. That is a much better considered decision than how to answer a question in a survey.

ARBITRATOR WERTHEIM: But is that response -- does that go to the preciseness of the Bortz data allowing for some sort of confidence interval, rather than to the entire study itself?

THE WITNESS: Remember the confidence intervals in the Bortz study are sort of standard sampling confidence intervals. They measure in some sense the range around the mean estimates that he has.

ARBITRATOR WERTHEIM: You don't have to

use that. Could he have some range of plus or minus just to take account of the factor that you have mentioned? Would that be adequate or --

THE WITNESS: Only if the range was very wide, in my view.

ARBITRATOR WERTHEIM: I don't think Bortz himself says that his figures are that precise.

THE WITNESS: I get back to my point. I'd have more faith in the Bortz numbers if they didn't look so different from the numbers that I get.

ARBITRATOR WERTHEIM: Might that not be equally true of the Nielsen numbers, since there are a whole lot of things that they admitted they don't take account of?

THE WITNESS: I'm sorry. Which Nielsen numbers?

ARBITRATOR WERTHEIM: The viewing data produced for this proceeding.

THE WITNESS: I'm sorry. Do you mean the data that I used or --

ARBITRATOR WERTHEIM: The MPAA data.

THE WITNESS: Other than the data that I have used, I have not seen -- I have not looked at any of their other data.

ARBITRATOR WERTHEIM: Well it doesn't

1 really matter, does it, because you know what their
2 concept is. That's what you are talking about here.
3 THE WITNESS: I guess I find it very
4 difficult to answer a question about a piece of
5 testimony that I have not seen. I know what the Bortz
6 study looks like. I have not looked at theirs.
7 ARBITRATOR WERTHEIM: Thank you.
8 BY MR. STEWART:
9 Q Cable operators in your study and in the
10 Bortz study make a determination roughly every six
11 months about whether to continue their distant signal
12 line-up or change it.
13 A Correct.
14 Q So that your study analyzes the question
15 of the purchase decision, in this case made at the
16 very beginning of period two to add C, as a function
17 of changes in viewing to programs that happen
18 throughout period two compared with period one.
19 A Remember, they are making some assessment
20 about the programs that are going to be carried on A
21 and B. The purpose of the ratings data are designed
22 to somehow take into account the inevitable diversity
23 of the programs within categories. It's something I
24 assume they take into account, because they know
25 something about the programs on the distant signals

1 they are choosing to carry.
2 I use ratings or viewing designed in order
3 to somehow take into account that variation. I think
4 it would be a mistake to just use hours, for the
5 obvious reason that all the programs within each
6 category are not the same. I need some way to make a
7 correction. I choose ratings or viewing.
8 Q And the Bortz cable operator respondent is
9 here at the beginning of three, end of two, again
10 looking at A, B and C now to decide whether to add,
11 drop or swap, and is asked a question about the value
12 to him of the programs he actually carried on A, B and
13 then C in periods one and two.
14 A I never thought of a Bortz respondent as
15 deciding on the basis of a survey question whether to
16 add, drop or swap. He was deciding how to answer the
17 question.
18 Q But he is doing so in the context of a
19 system whereby cable operators every six months make
20 that business judgement. Isn't that right?
21 A I don't believe, and I may be mistaken, I
22 don't believe Bortz asks are you planning to add or
23 drop, or tell me something about the programs on the
24 signals that you are planning to add or drop. I do
25 not recall that at all.

1 Q No. I'm talking about the environment in
2 which the respondent finds himself. That is, making
3 an evaluation of whether to make a change for the next
4 period and considering the value to him in terms of
5 attracting, keeping subscribers of the programs he
6 carried in the prior period.
7 A I believe for all the world that he's
8 making that decision, and I'm trying to analyze that
9 decision, in the analysis that I carried out. What I
10 am arguing is that that's not necessarily -- that
11 calculus is not necessarily being reflected in the
12 answers to the questions given to the Bortz survey.
13 Q But you would agree that -- I suppose what
14 you have said is you don't believe that a cable
15 operator -- that it makes any difference to a cable
16 operator to give an appropriate response to the
17 question how valuable were the programs. But you
18 would agree, would you not, that the cable operator
19 when he's responding to that question, is in the
20 process of making that evaluation in a context that
21 has real business implications?
22 A No. I think that's actually not right.
23 I presume periodically, not every day, not every
24 minute, not every instant, the cable operator from
25 time to time says do I like my program line-up, should

1 I add ESPN or take it off, should I drop or carry WGN,
2 or whatever. That is done periodically. It is done
3 carefully. It's done presumably by comparing the
4 additional revenues generated and the additional
5 costs.
6 If somebody during some period calls up
7 and asks you for 15 minutes what do you think those
8 programs are worth, that is not being given the
9 careful consideration that one would have to expect an
10 operator to be taking when he was actually deciding to
11 add a signal and spend real dollars to do so. I think
12 those are just not -- one would not expect the same
13 degree of consideration in deciding whether to carry
14 a distant signal, than to answer the question on the
15 Bortz survey.
16 ARBITRATOR WERTHEIM: Is it possible, Dr.
17 Besen, that the cable operators responding has gone
18 exactly through that careful study that you've
19 mentioned, probably several times in the preceding
20 couple years, and he has all that thought and
21 experience to draw upon in responding to the question?
22 THE WITNESS: If that was the case, then
23 I would expect that in fact I would get results
24 similar to what Bortz gets in my analysis, and I
25 don't.

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ARBITRATOR WERTHEIM: Is it possible that if that were the fact, we should expect you to be getting the results closer to Bortz, and if you don't, we have doubts about you?

THE WITNESS: It's possible. I wouldn't reach that conclusion, obviously.

BY MR. STEWART:

Q Now I flipped back to this soon to become famous picture here.

(No response.)

MR. LANE: Soon to become a major motion picture.

MR. STEWART: I'll sell you the rights, Dennis.

BY MR. STEWART:

Q Do you know, Dr. Besen, what percentage of viewing in cable households is to just the distant signal, the non-network programs on distant signals as compared with all of the other program services made available by basic cable?

A I'm not certain.

Q Do you think it's -- do you have any idea about order of magnitude?

A Most of the viewing will still be on local -- of the total viewing, most of it will be on the

local signals. Then there will be some amount on the distant signals. The typical ratings for those in cable households are for the standard super stations are on the order of one percent probably.

Q Okay.

A And the cable program services have ratings that are sometimes that high, and are often much lower than that.

Q I want to look at the real world of the cable operator. If you have -- you have suggested that viewing is an appropriate way to measure -- appropriate variable to consider in measuring the value of programs on the distant signals. Correct?

A I think what I said, to be precise, is that I think it's a sensible way to try to make more homogeneous the programs in each category.

Q Now if you look at a single household, single cable household which has this package of programs, some distant signals, and some other stuff. First of all, cable operators may derive additional revenues from the sale of advertising. Correct?

A Absolutely.

Q In what services do they sell advertising?

A There are some cable program services, in which some local avails are retained for sale by the

operator. I believe ESPN, for example, is one.

Q Okay. So some of these down here in the cable network range, in some of those a cable operator would be able to sell advertising time for additional revenues. Correct?

A That is correct.

Q That is in addition to the subscriber revenues he gets from selling the whole package.

A That's correct.

Q Now think of yourself as a cable operator here. If a cable household is attracted to view a program on a distant signal instead of a program in which the cable operator has sold advertising, will that add value for the cable operator?

A You have to net that out in the decision, if it in fact he couldn't sell -- on the other hand, it might well be that a viewer attracted to the system as a result of the additional carriage of a distant signal might in fact spend some of his time watching, say ESPN, and that advertising revenue will be taken into account in that decision.

Q But in terms of wanting to -- once you provide a programming mix of many, 20 or more channels, that attracts the greatest number of subscribers to pay the subscription rate, do you

really have an interest in maximizing viewing to the distant signals? Does a cable operator have any interest at all in doing that?

A I'm sorry. I do not understand the question.

Q Once a cable operator provides the mix that attracts the greatest number of subscribers, and now he's got his subscribers --

A Actually -- I'm sorry. Please go ahead.

Q He's looking to enhance a second revenue stream. Isn't he better off if the programs he brings in on a distant signal are not so widely viewed on his system, and instead, people view the services in which he's sold advertising?

A Well let's go back, first of all. He is not trying to maximize his numbers of subscribers. He is trying to maximize his profits.

Q Of course.

A Just as sort of a premise. What the operator does, and I describe the calculus here in the early part of the report, about the decision on the part of a cable operator to add a distant signal. He takes into account the additional revenues from all sources, net revenues from all sources from carrying the distant signal.

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That could involve for example, raising the subscriber fee overall, getting more subscribers, having some new subscribers who are attracted who then decide in turn to spend some time watching ESPN, and there are some additional advertising revenues there.

It doesn't make a difference to me. Revenues from all sources are what he takes into account in making this decision, net. What I say to myself is, I'm deciding whether to add a distant signal. How much additional revenue will it generate from all sources, net of everything? Doing all the netting of the sort you are describing. I compare that to the cost of doing so, which is the additional royalties payments that I have to make as a result. If the first number is bigger than the second number, I do it. If it's not, I don't.

Q Okay. So ideally, a cable operator would like to add a distant signal whose programs attract people to subscribe, but do not then occupy all of their viewing time. He'd like to have them come onto his system and then view other services. Is that right?

A Other than the fact that it is hard to think about a program service that people are attracted to bring on the system but then never choose

to watch --

Q Never say never.

A Rarely. It doesn't make any difference to me where he gets that revenue number from, it's a combination of all of these factors. It is a complex calculus. I allude to the factors that are involved here in the first part of the paper. There are a series of extra revenue sources that are possible. He takes all of those into account.

It is possible though he had a distant signal, somebody comes on and decides to subscribe to HBO. That counts, because adding the subscriber -- adding the distant signal, if it adds a subscriber who subscribes to HBO, the additional revenues for selling HBO is a contribution made from carrying the distant signal in my hypothetical. He would take that into account. He takes all these into account.

I don't care how that calculation is made. What I care about is the bottom line about how much it is worth. I am taking that bottom line and dividing it up among the various components of the programs on the distant signal.

Q One last question on Mr. Neiman's prior cross. You answered his last question, they could calculate them, meaning referring to the weighted

hours numbers that you used in your analysis or referring to the fact that the cable operators could calculate those numbers? That's not really true.

A They could infer it, would have been a better term.

Q There's no way that a cable operator could calculate the numbers that you've used in your analysis.

A They can estimate it, would have been a better term.

Q How on earth would they estimate them, Dr. Besen?

A They have some idea of what the programs are on those distant signals. They have to decide that all the time. They know something about the programs on distant signals they carry. They do not choose them at random. They know something about the programs that are on those distant signals. They know something about their relative popularity.

Q What do they know about their relative popularity?

A They know something -- in some cases, they know something about their viewing. In other cases, they may have to simply be able to infer that.

I can't directly place a quality

adjustment on those by sort of direct observation, a quality adjustment on those programs. So what I do is use some objectively available information about those qualities in order to do the weighting.

Just, by the way, if I may just for example go back to the question about workers, which I answered earlier, the example I gave of labor. It may be that schooling is not the best measure of the way that a firm decides on the relative quality of various kinds of labor that he employs, but it is a reasonable way for the analyst observing his behavior to do a weighting. If he could do a better job, obviously he would. But clearly, you want to make some adjustment and you're looking for some way to do that. It seemed to me ratings or viewing is a reasonable way to do that.

Q Okay. That was your determination, your decision was to use viewing as a weighting factor?

A Yes. It seemed a reasonable thing to do.

Q You obtained that viewing data from MPAA?

A That is correct.

Q What did you ask for precisely?

A I asked for information about the ratings or the viewing on the distant signals that were being carried.

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Q What did you get?

A I got just what I described.

Q In what form?

A I'm sorry. I'm not sure I understand what you mean.

Q You got it from MPAA?

A That's correct.

Q In what form did you obtain it?

A I can't remember now. It probably was in electronic form, but I'm not certain.

Q I want to show you a copy of -- I'm handing a copy to counsel also. I'm sorry I don't have multiple copies of this. We introduced it in connection with Ms. Kessler's testimony.

This is a document that had been labelled NAB 1990 through 1992 Exhibit 6-X. It is a listing entitled "Stations Investing Sample." Do you see that?

A Yes.

Q And it provides a listing of a cost sign, a location, network or independent status, and then for 1990, 1991, and 1992, there's an X from the column if the station was in the viewing data that you used. Do you see that?

A I see it.

ARBITRATOR WERTHEIM: Would you mind repeating the exhibit number please?

MR. STEWART: NAB Exhibit 6-X.

ARBITRATOR WERTHEIM: Thank you.

BY MR. STEWART:

Q Dr. Besen, we drew this list from the diskettes of information we were provided as data underlying your study in the discovery phase of this proceeding. Do you have any reason to believe that this is not accurate in terms of describing the stations for which you had viewing data available for these three years?

A I don't remember precisely. I do not remember the list at this level of detail.

Q Well if we listed every station, every commercial station that was included in the viewing data base that you provided us, would that be a list of all the stations for which you had such viewing data?

A I believe so.

Q Now just before we move off this. The data base that we were provided by you for 1992 included viewing information for PBS stations. Are you aware of that?

A No.

Q Let me hand you a copy of a printout of data from a file that was identified by you as DATA 92 XLS. That is your file designation. Is that right?

A I would not have necessarily known the name of the file, but I don't doubt it.

Q Can you, if you look down that -- this is a mere printout of data that you provided us as underlying documentation. Could you look through that document and see whether in the third column there you find any Es? The third column has an entry N for network and I for independent.

A Yes. There's some Es at least on page four, I might use on page five, et cetera.

Q Looking at page four, that's opposite the call sign KCET.

A Correct.

Q Now I thought that you did not consider PBS stations in your analysis, because you did not have PBS viewing information available.

A No. I may have mis-spoke. I didn't use the PBS data because there were no PBS programs on the distant commercial signals that I analyzed.

Q In other words, you decided first not to consider PBS programming at all?

A Yes. It was actually sort of more

complicated, yes. In fact, since I was talking about the commercial stations that were being added, there would have been no PBS programs, no non-commercial programs on them. Therefore, I couldn't have used the data on the adds and drops and swaps that I considered in order to do that.

Q So you could have though used the viewing data that was available to you and included PBS stations in your analysis?

A In effect, what it would have been would have been a completely separate analysis for the PBS stations. There would have been a set of observations for adds and drops of only PBS. They would have contained no additions or deletions of commercial stations. Similarly, for the --

ARBITRATOR WERTHEIM: Why is that so? Might not an operator drop a commercial station in order to pick up PBS in a distant signal?

THE WITNESS: No, no. Remember what we are doing here is we're talking about adding a distant signal and asking -- trying to take the additional royalties that are generated on that distant signal -- generators really carry that distant signal, paid --

ARBITRATOR WERTHEIM: Do you put this in the same category as an infinite percentage?

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THE WITNESS: No. It is not that. There are no non-commercial programs on the distant signals that were added. So in fact, that would always be a zero.

ARBITRATOR WERTHEIM: But PBS is -- why didn't you simply --

THE WITNESS: You could have done a separate -- what would have in fact occurred would have been the following. You would have had some adds which would have been added in commercial stations. They would have involved the addition of sports, movies and series, devotional, local. Every time a commercial station was added, you would have had changes in the programs in each of those categories, but effectively no change in the number of non-commercial programs.

Similarly, when you added a non-commercial station, you would have had only increases in the number of non-commercial stations as a result, and no necessary increase or change in the number of local or devotional or sports or movies and series programming. In effect, what you will be doing is carrying a separate analysis. One for public and one for commercial stations. We in fact carried an analysis for commercial stations.

BY MR. STEWART:

Q Did you ever perform the analysis using PBS programming data?

A No.

ARBITRATOR WERTHEIM: Did that provide any kind of check on your other data? Because you know that 100 percent of that is PBS programming.

THE WITNESS: It would have been a completely different and separate analysis from what we have done. It would have no relationship between them, and we did not do that.

BY MR. STEWART:

Q Now you made the distinction earlier in your testimony today between the stations for which you analyzed, and the cable systems which you said were the sample. Is that right?

A The cable systems are the observations, when they add or drop a distant signal.

Q And you referred to that as the sample that was being analyzed?

A It is a sample of cable systems.

Q Now isn't it conventional in approaching a study such as this to select a sample on a random basis or some other basis that allows you to project the results of your analysis first?

A Actually, in this particular case, since there are so few, relatively few observations that meet the criteria that they are adding or deleting distant signals. In fact, this is not a sample. This is a universe of every system, every instance of a system that in fact added or deleted or swapped a distant signal in this period. So we have a population, albeit a limited population because of the way we went about selecting it.

So any observation that would have met our criteria would have in fact been selected. It would have been a reasonable sample.

Q Well one of your criteria was that you have viewing data for the stations involved. Correct?

A Well we needed viewing data in order to do the "quality adjustment" that I described before.

Q And that, the availability of viewing data substantially constrained what you call the universe here. Isn't that correct?

A Yes. Exactly. That is correct.

Q That is, there were lots and lots of systems that added, dropped, or swapped distant signals during this period, but you didn't consider because you didn't have viewing data from the MPAA.

A We could not consider them, correct.

Q You could have gone about this by first selecting a random sample of cable systems that had made changes, and then asking MPAA to collect and provide you with the viewing data for stations involved in those systems. Isn't that right?

A Conceivably. It would have been hard, because for some of those stations, it might have been very difficult to get viewing data, for example, odd stations that had relatively little viewing.

Q In terms of the national viewing data that you used?

A Correct.

Q Well, wouldn't it be possible to select a -- strike that. The Exhibit 6-X that I have given you there, the stations for which MPAA provided you with viewing data for those three years. Do you have that?

A I have it.

Q Are you aware that that list of stations was not a random sample of distant signals?

A I'm not certain. No. I know that it was calculated or collected based on stations that had at least some minimum amount of viewing nationwide.

Q Viewing?

A I'm not sure it's viewing, but it's some measure of the size of the -- I'll put it this way, I

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1 think it's -- I'm not sure it's viewing, but it's
2 related to coverage of those stations in cable
3 households. Again, I don't remember the precise
4 criteria, but I know it's not a random sample. The
5 idea is to find stations that in fact are widely
6 carried.
7 Q All right. Are you aware further that the
8 sample as selected for the diary-based viewing study
9 under-represents network affiliates carried as distant
10 signals, and substantially completely represents
11 independent stations carried as distant signals?
12 A I'm not sure of that.
13 Q Are you aware of the fact that in terms of
14 the configurations of programming of the categories
15 that are of issue here, movies and series, sports,
16 devotional and local, there's a difference between the
17 package of programs typically carried on a network
18 affiliate and that typically carried on an independent
19 station?
20 A That may be. It doesn't affect again, the
21 ability of this analysis, the way it's carried out, to
22 get at the ultimate question, which is the relative
23 value of the programs on those signals.
24 Q If you did a study that was designed to
25 look at your universe of commercial distant signals

1 for the purpose of deciding the relative values of
2 these four program types, it wouldn't make a
3 difference to you that you were working with a sample
4 of stations that under represented a class of distant
5 signals that was different in terms of these very
6 programs?
7 A Again, it depends on the -- the answer is
8 not necessarily. What we are trying to get at is the
9 relative value of the programs in the different
10 categories. It seems to me this sample is perfectly
11 adequate for that purpose.
12 If in fact differences in the composition
13 of the programs on those signals is in fact precisely
14 what it is that permits me to in fact infer the
15 relatives values. If they all look the same, there
16 would be no variation to explain. I use the variation
17 in the carriage, excuse me, in the composition of the
18 programs in the distant signals to in fact decompose
19 the total value into those components.
20 Q If the variation were on a continuum, and
21 the ones at an extreme end of the variation in the
22 universe, in the distant signal universe, were left
23 out of the study, wouldn't that give you some pause
24 about the representativeness of the results that you -
25 - the degree to which your results measured the actual

1 universe?
2 A It would depend on what they were extreme
3 with respect to. I certainly can imagine a
4 circumstance where it would make no difference at all.
5 Q Can you imagine a circumstance in which it
6 would make a difference?
7 A I think the way this study has been
8 conducted, the thing you are describing doesn't make
9 any difference.
10 Q How do you know that?
11 A Because what I have is a sample of
12 stations that were added, a collection of stations
13 that have previously been carried. They vary a lot in
14 terms of the percentage changes and the amounts of the
15 programs in each of those. I have a variety of
16 members that tell me the incremental or the percentage
17 increase in the royalty payments. There's a lot of
18 variation there.
19 Once I have that variation, I use that to
20 try to get at my relative shares. As long as there's
21 substantial variation in that sample, it ought to
22 work.
23 Q I'd like to -- well first of all, if I
24 posited this hypothetical in which there were two
25 kinds of stations in the distant signal universe. One

1 that had all movies and series. The other which had
2 the other three kinds of programs. Okay? You have
3 that hypothetical clear?
4 A I would not have analyzed those.
5 Q Do you have the hypothetical?
6 A I do.
7 Q Then if you analyzed all of the movies and
8 series stations and a very small proportion of the
9 sports, devotional and local stations, do you think
10 that the results of your study would fairly represent
11 the relative values of all the four program types in
12 the actual universe?
13 A That's not the analysis that I did.
14 Q It is an extreme.
15 A Well no, it's more than an extreme. It's
16 one that -- every one of the distant signals that I
17 analyzed has some programs in each of the categories.
18 That's all that I need to get the percentage changes.
19 By you positing ones in which there are none of three
20 kinds of programs on some, and none of the other on
21 one, those would not have been in the analysis.
22 Q I am trying to articulate an example that
23 would sort of demonstrate the principal. If you had
24 two kinds of stations, one had 99 percent movies and
25 series, and one percent divided among the other three.

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And you had a different kind of station that had 99 percent among the three, and one percent movies and series, then I ask my question. Do you measure all the movies and series --

A Not at all. Let me go back to the example I used before, a much more sort of familiar one to me. We have observations on a large number of firms. We have output information about them. They use different mixes of labor and capital. It's more of an issue of quality adjustment here.

I can look at that sample, even though it's highly diverse. I want it to be highly diverse in order to get at the relative contribution of labor and capital to output. In fact, if they all had exactly the same mix of labor and capital, I wouldn't have anything to explain. I would have no variation to help me explain the variation in output. So I want that variation. In fact, that's exactly the variation that I have here.

I don't want them to all be the same. I want them to be different enough so that in fact I can get at their relative contributions.

ARBITRATOR WERTHEIM: Dr. Besen, it appears to me that you didn't respond to Mr. Stewart's question. Can you try, instead of fighting his

hypothetical, to answer him, and then explain why you think the answer doesn't prove anything if you think that.

THE WITNESS: It's true I'm fighting the hypothetical. The reason is that it does not describe what I have done.

ARBITRATOR WERTHEIM: Well, he doesn't ask you to assume that it does. He's got his own purpose. He doesn't have to tell you what his purpose is.

THE WITNESS: I understand. I have no idea what I would get if the data in fact were in the form that Mr. Stewart described.

If in fact I have -- if I can go on, if in fact I have wide variation in the sample, as I do, then I in fact will be able to get the relative weights that I want.

BY MR. STEWART:

Q And if you haven't captured all of the variation that actually exists in the real world, because you have under-represented one type of station, then that may have an effect on your ultimate results?

A They don't have to capture all of the variation. There has to be enough variation on the righthand side, if you like, to in fact infer the

relative values of the various components.

Q Within the universe that you have actually measured, as opposed to the real world?

A Well it's obviously done with respect to the universe I have measured.

MR. STEWART: I'd like to have marked at this time as NAB 1990-1992 Exhibit 16-X. A document, Dr. Besen, that takes the list of stations in your sample.

(Whereupon, the document was marked for identification as NAB Exhibit 16-X.)

CHAIRPERSON JIGANTI: Mr. Stewart, maybe at this time would be a good time to take a break.

MR. STEWART: Fine. Thank you.

(Whereupon, from 2:42 p.m. until 2:53 p.m. the proceedings went off the record.)

CHAIRPERSON JIGANTI: You may proceed.

BY MR. STEWART:

Q Okay. Do you have NAB Exhibit 16-X before you?

A I'm sorry. Is this 16-X? It's not numbered.

Q Yes. That is 16-X. Now in doing your analysis, you used data from Cable Data Associates.

Correct?

A Correct.

Q That data included which signals Form 3 systems carried. Correct?

A Correct.

Q How many subscribers Form 3 systems had?

A Correct.

Q And other information about the royalty rate and the revenues -- the royalties and the revenues and the subscriber rates charged by Form 3 cable systems?

A That is correct.

Q And that included the periods, second accounting period for 1990, then for 1991 and 1992?

A Included. It was not limited to those. That's correct.

Q Right. Okay. Now this Exhibit 16-X simply takes those, takes subscriber numbers, full-time distant carriage of each of the stations on Exhibit 6-X and adds them up. Okay, do you see that?

A I do.

Q And where there is a blank, that's because there was a blank on 6-X. That is, it was not included in the information for which you had viewing data from MPAA. All right?

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A I understand.

Q Now this Exhibit 16-X takes the same form as exhibits that have been introduced in prior CRT proceedings to evaluate the representativeness of the samples selected for the MPAA diary-based viewing study. All right?

A Actually I don't know that for a fact.

Q You haven't seen it?

A I have not.

Q All right. If you would turn to the second page of Exhibit 16-X, please. Do you see there the first line of these last three is entitled Totals. That simply adds up all of the subscriber numbers in the particular column. Okay?

A I see those.

Q Then below that total of all independents is a number also that comes from the Larson, Tom Larson's Cable Data Corporation data, which is the total subscriber incidence for all independent stations carried as distant signals on Form 3 systems for the particular period. All right?

A Yes. You are telling me that.

Q If you just divide the total subscriber incidence for these independent stations, distant signals, by the total for a subscriber incidence for

all independent stations carried as distant signals in that period, you get an answer of 95.24 percent for the first period. Do you see that?

A I see it.

Q Now have you checked the math while we have been talking here?

A No. I have not.

Q If you find any errors in this math, please let me know.

What that would mean in effect is that every time an independent station is carried as a distant signal to a group of subscribers, you've got -- let me start over again.

Are you familiar with the concept of subscriber incidence?

A Why don't you tell me what it is. It's late in the afternoon.

Q All right. As Larson, as Cable Data Corporation reports it, it is simply the number of subscribers who can receive each of the distant signals, each of these stations is a distant signal. If you covered 95 percent of all of the instances in which independent stations are carried, delivered to Form 3 cable subscribers as a distant signal, you have covered virtually all of the independent distant

signal carriage. Correct?

A Ninety five percent.

Q Okay. That's a substantial proportion. Correct?

A Yes.

Q If you'd turn to the last page of Exhibit 16-X, you'll see the similar, the same calculation made for network affiliated stations carried as distant signals. Do you see that?

A I'm sorry. Yes.

Q And here you've got numbers in the 55 to 58 percent range roughly, representing the amount of distant signal carriage of network affiliates in terms of subscriber incidence that are represented by the MPAA viewing data that you used. Do you see that?

A I see that.

Q To be fair, the proportion of distant signal subscriber incidence represented by all affiliates is smaller than that represented by all independents. Do you see that?

A I'm sorry. Say it again.

Q If you look at just the total of all affiliates there, you have numbers in the range of 17 and 16 million subscriber incidents on the last page. Do you see that?

A Correct.

Q If you look at the same numbers for independent stations, you have numbers in the 90 million range. Do you see that?

A I do.

Q So the distant signal universe has more independent station carriage than network affiliate carriage, right?

A Correct.

Q But if the data, the stations which constrained -- back up. The list of stations provided to you by MPAA which constrained your analysis represented a substantially smaller proportion of the distant network affiliate carriage in these three years.

A It constrained the observations I could use, yes.

Q And it constrained it in particular by excluding every single case in which one of the omitted network affiliate stations was carried as a distant signal at all by the system. Is that right?

A That's correct.

Q So that even if you had a system adding WTBS as our signal C here, if signal A was one of the almost half of network affiliate distant carriage that

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was not in MPAA's list, you didn't use that observation at all. Right?

A That's correct.

Q Now you also did not, I think you testified earlier, confirm at all the categorization of programs in the viewing data that MPAA provided you. Is that right?

A Confirm at all in the sense that I accepted them as they were given to me.

Q You did accept them as they were given to you, and not review or evaluate whether the categorizations were correct. Is that right?

A That's correct.

Q And if, just in general, if for example, programs that are actually local programs in the sense that NAB is making a claim for them in this proceeding, were categorized as movies and series or vice versa, that program miscategorization would have an effect on the outcome of your study. Isn't that right?

A I could, depending on how large it was and how many there were.

Q Okay. When you talk about in your testimony, in your written testimony -- I'll read it to you so you don't have to go to it.

On page three of your testimony, you say, "Finally in this study, in contrast to the studies based on cable operators' statements, programs are accurately placed in the categories that were used by the Copyright Royalty Tribunal in its distribution proceedings."

Do you recall having submitted testimony to that effect?

A I do.

Q You did not confirm in any way whether they were, the programs were accurately placed in the categories?

A That was in response to the fact that there was a concern that the Bortz study, that it may not have been clear to the operators responding to the Bortz study exactly where particular programs had been classified. So it was represented to me that in fact I had the categorizations as the claimants were making them.

Q Those were the categorizations as made by MPAA?

A Correct.

Q And these three viewing-based studies -- I'm sorry, diary-based viewing studies, have not been presented in this proceeding. Have they?

A I'm not sure I follow you.

Q Other than through your study, MPAA has not produced or presented the results of those three diary-based viewing studies in this proceeding.

A I have no way of knowing whether that is right or not.

Q One last question on the viewing issue. Are you aware that Mr. Lindstrom, on behalf of MPAA is scheduled to present a viewing based study, a viewing study in this proceeding?

A No.

Q Okay. Let me tell you that based on the written testimony that he has presented, and that's been presented for him in this proceeding, you haven't reviewed that testimony?

A That's correct.

Q He presents five different viewing numbers. Viewing numbers for five different periods over 1990 through 1992. He has alternatives based on whether they are sweep periods and not sweep periods and so on. He presents a single digit viewing percentage for each of the categories that were at issue in your study.

Let me just tell you what they are. This will be subject to check from the -- by comparing it

with Mr. Lindstrom's exchanged testimony.

This is a straight viewing number from his study as it has been presented thus far, for movies and series. He presents numbers that range between 81 and 84. By the way, these -- some of these go up over the course of the three years, some go down. I'm just going to give you the lowest one first, and the highest one last. That's for movies and series. Then for sports, he reports numbers between six and seven. For devotional, he presents numbers between asterisk and one. For what you'd call local programs, which are station-produced programs, he presents numbers between six and eight percent of the viewing.

Now these are numbers I believe that include -- there's also a PBS number that he provides, so these wouldn't add to 100 in any particular year.

Now let's look at the results of your study and let's look at the basic study. That is what you have testified is your preferred approach. Is that right?

A It's the one that I think -- yes. That's the one that has the set of assumptions that I would prefer.

Q For movies and series, you've got an 85.5 percent. I'll just take them right off this chart

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which you so conveniently -- for sports, your study shows a 7.7 percent share. For devotional, 1.8 percent share. And for local, five percent share. Is that right?

A You transcribed it correctly.

Q Now does it surprise you, Dr. Besen, excuse me. I won't ask you a question.

A Yes you can ask me that. You can certainly ask me that.

Q Aren't the results of your study, Dr. Besen, substantially the same in terms of orders of magnitude, rank orders and the like as the straight viewing study that's to be presented by MPAA in this proceeding?

A I guess the first thing to say so there's no misimpression, I have never seen the other numbers. I have no idea whether Mr. -- is it Lindstrom?

Q Yes.

A -- has seen mine. So whatever similarities there are may be are coincidence. They have nothing to do with any collusion on our part to come up with similar numbers.

Second, I think it's important. I think maybe it's a point that's worth sort of going back to. It's possible that in fact my results look similar to

the viewing numbers, but they don't have to. That is, there's nothing about the approach that I took that guarantees that the weights that I get are related to or the same as the viewing shares.

In fact, if I just take a minute, because I think it would be worth making the point. There was a point made last night, and it maybe not as clearly made. Let's put this one up if I can.

You may recall this was an illustrative diagram or a chart that I put up at the first session. It simply shows for two hypothetical cable systems the percentage increase in copyright royalties and the percentage change in distant signal movie hours and distant signal sports. It just how you could calculate it if you had those two cable systems with those two complements of distant signals and with those two sets of adds. You could calculate that in fact, it turns out that after you make the adjustment, that the movie claimant share is 68 percent and the sports claimant share is 32 percent.

Now what's your relationship between those numbers and viewing, which is the point Mr. Stewart is trying to focus on here. Well, I have some numbers here. I have a black chart.

If you go back and look at the report, my

original prepared testimony, I gave numbers from which I derived these two, these R', M', and S'. In fact, on the examples I gave for system one, this is in the text of the report, are where the M -- in the first period is an M, in the first period was 150. It went to 240. That's the 60 percent increase there. It was a 60 percent increase.

For sports, the numbers I gave went from 50 to 60. That's the 10 percent increase that I got.

I don't provide all the numbers for system two, so let me just provide more information about system two in my hypothetical. System two has a 20 percent increase in movies and a 10 percent increase in sports. So let me just put numbers down that do that. Two hundred to 240. That's the 20 percent increase for movies. Just as an odd number, 54 and a half to 60. That's the 10 percent increase for sports.

So these numbers, I could have derived these numbers, the 60 and the 20, and the 20 and the 10 from these. This is a 60 percent increase for movies for system one, and a 10 percent for sports for system one. A 20 percent increase for movies and a 10 percent increase for sports.

Now, you see down there, I calculate movie

share equals 68 percent and sports share is 32 percent. Okay? Now what are the viewing share in this case? Well, the viewing shares turn out to be, because I did it very simply, in both cases the movie viewing is 240 out of 300, both cases. I did it real simple. So the movie share of viewing, movie viewing share is 240 over 300. That's 80 percent.

All this is designed to do, to make a simple point that just because movie share of viewing is 80 percent does not mean I couldn't have gotten, in fact indeed I did get, a share of movies of 68 percent.

There is no necessary connection between the number that I get based on relative values, operator behavior, choices, and their share of viewing. It may turn out, apparently according to if Mr. Stewart's chart is correct. I haven't seen the Lindstrom study. It may turn out coincidently that my numbers are the same as the viewing numbers, but that's a coincidence. My numbers are based on value. In this particular example, it's a hypothetical, movie share was 68 percent of the royalties based on my calculation, but as much as 80 percent of viewing. So there's no necessary connection between the two.

I regard the similarity of those two

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numbers as a coincidence, not anything else.

Q You said you measured value, not viewing. But you selected as your value criterion the relative amounts of viewing measured by MPAA and its --

A For the purpose of making the categories of programs homogeneous. Not for the purpose of assigning weights to the categories.

Q Your testimony is that the fact that these numbers end up so substantially resembling each other is a mere coincidence?

A With those viewing numbers, you could have gotten anything with respect to shares based on my analysis. So the fact that they are the same, again, I regard as a complete coincidence.

Q A remarkable coincidence. Strike that. You don't have to answer.

(No response.)

ARBITRATOR WERTHEIM: Mr. Stewart, what's that figure on the Neilson share for devotional? One point what?

MR. STEWART: Eight. That's the number that came off of -- it's directly in his testimony, it's on table 2 of his testimony I believe.

I'd like to have marked as Exhibit 17-X, a page from your 1990 proceeding, Dr. Besen.

(Whereupon, the document was marked for identification as NAB Exhibit 17-X.)

BY MR. STEWART:

Q This presents the results in a similar form to that you've provided in table 1 of your current testimony of the similar study you did for the 1990 proceeding. Right?

A I do not remember this chart, but it looks vaguely familiar. I don't remember any detail.

Q Do you remember that on the bottom line there you reported the results of your regression analysis for the situation in which you used only unweighted hours, not weighted by viewing data?

A That's apparently -- yes, that's here. I didn't remember that.

Q And the results for that analysis which just used hours showed negative coefficients for every category except for movies and series. Correct?

A That's correct.

Q That includes sports?

A That's correct.

Q And now in fact in this proceeding you have also produced negative coefficients. If you've -- I'm sorry. Strike that.

Isn't a way of interpreting the results of that analysis that cable operators would rather have distant signals that are made up only of movies and series? They would value such distant signals more highly than those that have the other program categories on them?

A Taken literally, yes.

Q Okay. If your results show -- if you believe that your results show even in this --

A Again, we're focusing on unweighted hours regression which on sort of further thought, simply on a -- ground, seems to be not the correct way to do it, for the reason I have already indicated. It seems to me you want to try to make the categories of programs as homogeneous as you can.

Q Even where you have done the weighting, if your results suggest that the movies and series coefficient is the only one as to which you can say with confidence it is different from zero, the results could be interpreted in the same way. Could they not?

A Yes. I would not necessarily interpret them precisely that way, but literally, taken literally that is correct.

Q So that the implication of this result, if such a result accurately reflected the real world of

the cable operators, you would expect to see either no distant signals carried at all because they've got sports, devotional and local programs on them, or you would expect to see only distant signals of which I'm not aware, that have only movies and series on them being bought in the marketplace and carried. Isn't that right?

A Well, no that is not quite right of course, because again, just taking this literally which I think is not the right way to take it. But taking it literally, you would say to yourself well, these movies and worth a lot and these other programs are not worth very much, but net, it's still worth being carried just for the movies, even if the other programs contribute little or nothing, or even a negative amount to the value to the operator.

Q Are there cable networks available that would free the cable operator from the burden of these valueless program categories that they get on distant signals?

A Yes. But they come out of price. So it's possible that it still might be worthwhile carrying a distant signal in preference to one of those.

Q Okay. But in terms of measuring real world cable operator behavior, cable operators who

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paid 500 million dollars for the distant signals at issue in this proceeding, carried distant signals that had all four of those program categories on them. Isn't that right?

A Yes.

Q Okay. Now what differences were there between your 1990 study and your 1990-92 study?

A In terms of the -- in terms of what?

Q Anything.

A Anything? I think in methodology it's the same. We separately asked, or once again asked Tom Larson to give us the Form 3 systems that we were interested in analyzing. I believe there were some differences, because of differences in his data base between the intervening periods that meant that the observations were not necessarily identical between the periods.

I think there also may be more periods of observation, but I don't recall that. I don't remember this study all that well.

Q You ended up first including more years. You included 1991 and 1992, as well. Correct?

A Because they were unavailable earlier I believe. That's correct.

Q Whether or not that was the reason, you

did include those in your 1990-92 study, but not in your 1990 study. Correct?

A You mean in this study? That is correct. I don't remember exactly the time period covered here.

Q All right. I am going to help you with that in a minute. But you ended up with fewer observations. Do you see the N equals 342 on the first line of Exhibit 17-X?

A Yes.

Q That means you included 342 cable system distant signal changes in your analysis there, but only 208 in this year's version. Why is that?

A I don't recall. It may be differences in the way the filters occurred. There may have been differences in the regional observations supplied to us by Larson. I just don't know.

Q Was there any difference in the way you treated viewing data?

A Not that I can recall, but I'm not certain.

Q Well in this Exhibit 17-X --

A I'm sorry. Mr. Stewart, is this 17-X?

Q Yes. For the local programming category first time around, you showed substantial negative coefficients that were significant to the 99 percent

confidence level. Do you see that?

A I do.

Q What does it mean that your new study does not show substantial statistically significant negative coefficients for the local programming category?

A What does it mean? It means it doesn't show that.

Q If you were 99 percent confident that that was the case last time around, what has happened to --

A I think there obviously are differences in the underlying data. Again, we requested a sample. It seems, again this is only an inference, and in fact, we may not have gotten the same number of observations as with this time as you do that time.

Q Do you recall when I cross examined you a couple of years ago on your 1990 case, that we discussed the situation in which you analyzed a cable operator that had dropped KMEX, a distant signal that was Spanish language programming station, but the data showed that it had also in the same period begun to carry a local Spanish language program station.

A I do not recall that.

Q That system has dropped out of your analysis this time. Is there a reason for that?

A I didn't make some special effort to eliminate it, no.

Q In fact, there were a number of observations that were included in the first go around that aren't in your current study.

A Well obviously there were more in the first study that are not in here now, but I can't explain why they are missing. There was certainly no attempt, to make it clear, we did not go through the observations and say, take those out, they are no good. The observations were selected and the filters applied in exactly the way that is described in the text.

MR. STEWART: I'd like to introduce a series of exhibits now. You'll be happy to know that my initial plan of discussing aspects of all of them has now been abandoned in light of the lateness of the day.

But let me ask to have marked first as Exhibit 18-X, a copy of a cross examination exhibit on the 1990 proceeding. It was originally designated as NAB Exhibit 43-X in the 1990 proceeding. But you should mark this now.

(Whereupon, the document was marked for identification as

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NAB Exhibit No. 18-X)

MR. STEWART: I'd like to have marked as 19-X, what was previously in the 1990 proceeding Exhibit 44-X.

(Whereupon, the document was marked for identification as NAB Exhibit No. 19-X)

MR. STEWART: Then to complete the set, Exhibit 20-X is a document that is entitled CDCHNG.DBF.

(Whereupon, the document was marked for identification as NAB Exhibit No. 20-X)

MR. STEWART: And the final in this series is 21-X.

(Whereupon, the above-referenced document was marked as NAB 1990-1992 Exhibit 21-X for identification.)

ARBITRATOR WERTHEIM: Were these the last two, Mr. Stewart?

MR. STEWART: They were not. The last one is 21. Just to --

THE WITNESS: Can I have a moment? Thank you.

BY MR. STEWART:

Q Just to -- first, 18-X, do you recall, Dr. Besen, our discussion of this document when you testified last?

A I'm sorry?

Q 18-X.

A Is this 18?

Q I told you I marked it.

A Frankly, I don't recall any detail. It is 18. I have 18.

Q Okay, good. The record will speak for itself. When this exhibit was introduced and I discussed it with you, it was described as a print out of the data that you had provided as underlying documentation to your 1990 regression analysis, and it shows for each of the 342 observations the cable carriage -- the distant signal and local signal carriage.

And this is the first six pages only of a much longer print out. That was all of the data from the 342. Do you recall that?

A Only very vaguely.

Q Okay, and this was the form in which you had carriage data that helped you identify the systems and the signals that you were -- you analyzed in your

regression analysis, correct?

A It appears to be.

Q And it came from Larson?

A That's correct.

Q And the next exhibit, 19-X, we discussed originally is a print out of another file that you provided us as underlying documentation to your 1990 study. And it shows first under change the period in which the observation occurred, that is, the first half of 1990, and that's the first line.

Then information identifying the system. Then the numbers in the right-hand columns are the actual numbers that you used in your regression analysis, is that correct?

A That appears to be the case.

Q For the first one, delta royalty --

A I'm not sure actually. For some reason, in the series and the movies separately -- and I'm sure they were combined in the analysis. So I'm a little puzzled about that.

Q Well, this was merely a print out of what you provided us as underlying --

A Well, I'm not quarrelling with that. I'm just saying that in fact when the actual variables were used, they would have combined series and movies.

Q Did you ever run an analysis separately for series and movies?

A No, I believe you asked me that the last time. I think the answer was still no.

Q Do you remember some of the things --

A That one I remember, yes.

Q All right. In any case, the delta royalty figures of percentage change, either a negative change or a positive change in the royalties paid by the system in the observation period, correct?

A Yes.

Q And then the factors to the right are the percentage change in the program category as weighted by the viewing numbers, correct?

A That's correct.

Q Okay.

A They're essentially the same variables that are used in this analysis with the caveat that movies and series are combined.

Q Okay, now the next exhibit, 20-X, is a print out of again part of the documentation you provided to us as underlying your 1990 to 1992 study. And Dr. Besen, I want to hand you so you can have it handy the print out of the entire file of which Exhibit 20-X is just the first 21 pages.

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And you see here again, Dr. Besen, the information is provided identifying the system, then the stations the system carried, and then whether they were a distant signal or not, and each of the periods covered by your analysis.

A That's what it appears to be.

Q Okay. And then finally, Exhibit 21-X is -- are the factors again -- the variables again that you used in your analysis in this case for 208 observations. Is that correct?

A I apologize.

Q Oh, I'm sorry.

A I have 18, I have 20. Do I have 21?

Q It looks like this.

A It's possible that it's here.

Q Here's another copy.

A Thank you. That's not it. I believe I have it. Now I have it.

Q Yes. All right, and this shows the actual variables that you used in your 1990 through '92 --

A Well, I can't verify them by number, but in general terms would be the format.

Q And I've indicated excerpts here, because although we've included all these numbers, there were actually something like 115 columns of information

provided for each one of these observations in the data we received. And let me hand you --

ARBITRATOR WERTHEIM: Read it all very carefully.

BY MR. STEWART:

Q Let me hand you a memo that we received which identifies the file name which we've used here. And a memo which also describes the various variables that were included in the original BASEDATA.XLS file, do you see that?

A Yeah, I do.

Q Okay, and can you confirm, based on that, that this -- the numbers presented in Exhibit 21-X -- if they are simply a print out of the data that was provided under the cover of those memos is the data that you used in your regression analysis?

A Let me see -- I can't tell if these are the data in my analysis. I have no reason to believe they're not, but it doesn't say they were.

Q Can you confirm for me that --

A These are the --

Q -- BASEDATA.XLS is the file that was provided to us.

A I can confirm that.

Q Containing data for the observations?

A Correct, yes.

Q Okay. Let me just quickly add Exhibit 20-X.

A I have it.

Q And as I told you, I've given you the complete print out which is 300 or 400 pages long there. You have that weighing your desk down, correct?

A It's here.

Q Okay. Now this apparently provides information for all systems that were Form 3 during this period -- at some point during this period, and changed -- added, dropped, or swapped a distant signal, is that right?

A I believe so.

Q Okay, now just looking at the first one here, an Alaska system with the system ID AKE400, do you see that?

A I do.

Q That's not one of the observations that you analyzed, is that right?

A I don't know for a fact.

Q You can tell that by looking at 21-X and seeing that it's not there.

A Apparently not, yes.

Q Okay.

MR. LANE: Excuse me, Mr. Stewart, but it says excerpts of Exhibit 21, so I don't know how it's clear that we can't tell something's not there when this is only a --

ARBITRATOR WERTHEIM: Where does it say excerpts?

MR. LANE: At the top, it says BASEDATA.XLS (excerpts).

ARBITRATOR WERTHEIM: Oh, you're looking at 21?

MR. LANE: 21.

ARBITRATOR WERTHEIM: Thank you.

MR. STEWART: Yes. And Mr. Chairman, as I explained, what I've excerpted are the columns, not the rows. There were 115 columns for each one of these 208 rows. We've provided all 208 that were in this data base. We just haven't provided 115 columns of information for each of the -- this is a print out of the data that was provided to us by Mr. Lane and by Dr. Besen's people as containing all 208 of the observations they analyzed.

CHAIRPERSON JIGANTI: Mr. Lane, I don't know what your position is. Are you making an objection to this, comment on it, or are you raising

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it for more -- about the exhibit itself?

MR. LANE: Well, now that Mr. Stewart has explained it, I guess I'll have to accept that. It was unclear to me what the excerpts meant.

CHAIRPERSON JIGANTI: Very good. You may proceed, Mr. Stewart.

BY MR. STEWART:

Q For the first system on Exhibit 20-X, can you tell us why that wasn't included in your analysis?

A Well, you'll see that the number of systems that appear to be -- that are reported by Larson to us as drops -- for example, take WGN. This is an Alaska system, and they classify WGN as distant for three periods. It suddenly became local.

We didn't treat that as a drop. We treated that as a misclassification. The same thing is true of WTBS and WWOR. So there is a description in the report of why stations that would treat -- that appear to be dropped because they were reclassified from distant to local were not in fact -- they didn't get through our filter, even though Larson may have provided them to us.

Q So you're saying that because the cable system classified these as local or was reported to classify these as local in one period when they were

actually distant meant that you had discarded this observation?

A Yeah, I don't see any reason why it made any sense to call WGN a local station in Alaska.

Q Are you aware of the fact that when the Larson report was -- that that's because the system reported as a Form 2 system and not --

A It wouldn't have made a difference for matter of purpose. Obviously it's not dropping a distant signal.

Q Well, I thought that when you -- your testimony in fact said the opposite, Dr. Besen. Let's look at it together. Can you turn to page 19 of your testimony?

A Could you hang onto this just to give me some room here?

Q Sure.

A Page 19?

Q Yes.

A Fine.

Q Do you see at the top of page 19 there where you say if it's treated as distant in one period and local in another that you treat the signals as distant in all periods?

A Well, there are actually two different

parts to the analysis. One is the question of how to treat a signal itself as going from being dropped -- being reclassified. We did not -- if an instance involved a reclassification of a station from distant to local -- that station had been distant at one point -- we would not call the reclassification of that system a drop or an add.

What this paragraph is referring to in the second part of the paragraph -- the paragraph begins the bottom of page 18 -- is referring to is the fact that if you dropped a station -- if there was an actual drop by station, it went from being distant to not being carried, that there was another station on the system that had previously at some other time had been classified as distant and was now classified as local, we classified that as distant.

So the station is between whether it involves the station -- a particular station that appears to be added or dropped or some other station other than the one that's being added or dropped as being reclassified. And we would treat any station that had been classified -- ever as classified as distant always as distant, even if in the period of the addition or drop of another station it would be classified as local.

Q So if a system was reported ever to have changed its classification of a distant signal, you deleted that system from your analysis?

A No, I don't think I was clear on that. Consider two kinds of stations. Consider a station that was distant and was reclassified as local. That was the only thing that happened during this particular period hypothetical. We would not treat that as a drop.

That was not a -- we would not treat that as an observation. Now consider another situation where a station is truly being dropped. A distant station, it's clearly being dropped, it's not being reclassified. Now we have the problem of determining the increase in programs or the change in programs on that station.

The question is, what should we use in the denominator of our percentage change? We would -- we in fact used in the denominator, we treated -- even if there was a station that was then classified as local or had previously been classified as distant, we classified it as distant for the purpose of calculating the percentage change in distant signal programming on that station.

There are not a huge number of

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observations for which this is relevant, but that's the way we treated the ones that in fact -- where those anomalies occurred.

Q Okay. And if we look through Exhibit 20-X -- and again, this is just the first 21 pages of 300 or 400 that you've now given me back -- and compared that with 21-X, we could see which systems for one reason or another were eliminated from the analysis, is that right?

A You should be able to do that. The rule of thumb is -- the rules are the ones that I just described to you.

ARBITRATOR WERTHEIM: Excuse me, I thought Mr. Stewart said both 20 and 21-X were discovery data under our most recent study.

MR. STEWART: That's correct, Your Honor.

ARBITRATOR WERTHEIM: I don't understand the comparison between the two of them for your last question.

BY MR. STEWART:

Q Dr. Besen, you obtained from Mr. Larson data on all those Form 3 systems that had added or dropped distant signals at any time during this period '87 through '92, is that right?

A That his method would have classified as

having added or dropped. Obviously, as I said, there were stations that he would have told us were in fact dropped, but on closer examination, simply were reclassifications. And we did not treat those as drops.

Q Right. Let's just try to get this straight. This collection of pages of which Exhibit 20-X is the first 21 pages is the data base that Mr. Larson provided to you as presenting the cases in which Form 3 cable systems had dropped or added stations, is that right?

A That's -- I believe that's the case, yes.

Q Okay, then from that long list of adds and drops and swaps, you selected ultimately 208 to include in your analysis, is that right?

A Well, we tried to include all of them, but we didn't want to include as drops or adds simple reclassifications of stations that continued to be carried.

Q Let me restate the question. From that long list -- or repeat the question. From that long list of all the cases that Larson had identified as drops, adds, or swaps, you ended up selecting out 208 which were the only ones you included in your analysis?

A Those are the ones that satisfied the criteria, yes.

Q Okay. Among the criteria, for example, were whether you had viewing data because of the station had been selected by MPAA --

A That is correct.

Q Okay. So that if we look at the first system, the Alaska system, it clearly did drop WWOR in the first half of '92, is that right?

A It would have, yes.

Q Okay. You did not include that system in your analysis because -- if we look at 21-X, AKE400 is not there, right?

A That's correct.

Q Okay, and if you just continue on on page one over to page two, you for one reason or another excluded all of those systems down to -- until you get to ALD200, which is the first one that shows up on Exhibit 21-X.

A All I can tell you is the rules that we used to go from the longer list to the shorter list.

Q Right.

ARBITRATOR WERTHEIM: Just to clarify this, would it be correct to say, Dr. Besen, that the stations listed in Exhibit 21 are included among the

longer list of stations that are in Exhibit 20?

THE WITNESS: Systems, yes. They're systems, not stations.

ARBITRATOR WERTHEIM: Right.

THE WITNESS: That's correct.

ARBITRATOR WERTHEIM: Thank you.

BY MR. STEWART:

Q Okay, and let's flip over to the last page of Exhibit 20. This is my gift to you, flipping over to the last page instead of what I had planned doing. But you'll see that the last system reported there is CAI250, and that's about the 14th station -- system in Exhibit 21-X, correct?

A Multiple exhibits is the problem here.

Q If you would keep out 21-X and 20-X, that would be the best --

A Fine. I'm sorry, just go ahead, please.

Q Okay, so this 21 pages of systems yielded 14 for your analysis, all right?

A I guess.

Q Okay, and among -- now let's -- right at the top of the last page there is the record for CAH240, do you see that?

A I do.

Q It actually continues over from a previous

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page because there aren't any distant signals on the previous page. So let's just look at the top of page 21. And tell me if you can by looking at 21-X what it is that you analyzed about this system?

A 21-X? I'm sorry.

Q Okay, let me help you. If you look down in the left-hand side of 21-X, you find CAH240.

A I do.

Q Okay, so can you tell me which period -- for which accounting period you analyzed CAH240?

A Exhibit 21-X?

Q Yeah.

A It says '90-1.

Q Okay, and if you look to 20-X down the 90-1 column, you see that there are some changes in distant signals?

A Yes.

Q What was the change?

A Apparently it was an additional -- dropping of KTSL in Sacramento and an adding of WWOR in New York.

Q Okay, and now -- so let's -- that is what we referred to as a swap, is that right?

A Yes.

Q Let me just indicate that up here on our

simply example that was -- a case in which a cable operator carries A, B and D in the first period and A, B and C in the second period.

CHAIRPERSON JIGANTI: Mr. Stewart, would it be convenient to take a break at this time?

MR. STEWART: Yes.

CHAIRPERSON JIGANTI: Okay, we'll take a ten minute recess.

(Whereupon, the proceedings went off the record from 3:45 p.m. until 3:57 p.m.)

CHAIRPERSON JIGANTI: Mr. Stewart?

CROSS EXAMINATION (resumed)

BY MR. STEWART:

Q Dr. Besen, we were looking at CAH 240, and it showed that that system swap, continued to carry WTBS, in the second half of '89 and the first half of '90. But swapped WWOR for KTXL, brought in WWOR and dropped KTXL, do you see that?

A I do.

Q Okay. Now, I've indicated that in our simple example by indicating that a system carried A, B and D, and then it carried A, B, and C, in the subject time period. In those circumstances, what would you expect to happen to the royalty figure?

A I have no judgment about that.

Q Well, in a situation in which the cable operator carries A and B, and then adds C, you would expect, generally, that the royalties would increase, correct?

A I'm not sure that's correct, because it's possible that they may be simply accepting less -- you could switch to something less attractive, if you save enough money by doing so.

Q So, by adding --

A I mean, in principle.

Q Do you know how the DSE schedule works?

A Yes, but it's multiplied by a, by a, by the matter of basic subscriber revenues. And, if those change, the delta number of dollars change. It's the number of dollars I would get.

Q Okay. Well --

A I'm not saying that's the only thing that could happen, but that's something that could happen.

Q All right. But, let's -- all other things being equal, let's state it that way, you would expect royalties to stay constant, right?

If you didn't have any increase in subscribers at two, in period two, and you had the same number of DSE's in both periods, you would expect royalties to stay constant, wouldn't you?

A If the number of subscribers stayed unchanged, and the basic subscriber rate changed, stayed unchanged? And nothing else happened, nothing?

Q Right.

A If those things stayed, of those two things did not change, then, in fact, a swap should lead to no change.

Q Okay. And look at Exhibit 21-x, at the line there for CAH 240, would you please?

A I see it.

Q What is the delta royalty figure there?

A It's a 24 percent reduction.

Q Okay. So, you know this system still had, had the same number of DSE's in both periods. It had a 24 percent decrease in the royalties that are paid.

A There must have been some, something must have happened to them, a matter of subscriber revenues against which that number was multiplied.

Q Is that the only cause for a reduction in royalties like that?

A That's the only one I can think of, exactly.

Q Let me -- did you ever look at the statements of account for the system, the 208 systems in your study?

A I didn't, no.

Q I'd like to introduce, as Exhibits 22-x and 23-x -- let me do 22-x first. A statement of account for Hayward Cable Television, for the second half of 1989.

(Whereupon, the above-referred to document was marked as NAB Exhibit 1990-1992 No. 22-x for identification.)

I apologize for the quality of the copies I have. I guess we picked that up at the Copyright Office, which puts these things on illegible microfilm.

And 23-x, the next one, is a statement of account for the same system, for the next time period, 1990-1.

(Whereupon, the above-referred to document was marked as NAB Exhibit 1990-1992 No. 23-x for identification.)

A Is this 23?

Q Yes. Write down the numbers, Stan.

A I'm sorry, please. The first one is?

COURT REPORTER: 22-x.

Q Okay. Do you have those two?

A I do.

Q If you look in the upper right-hand corner of the first page of each of them, you'll see the total amount the Copyright Office has written in was paid with the statement of account. Do you see that?

A I do.

Q And, in 22-x, for the second half of '89, the cable operator remitted 118,900 dollars, is that right?

A That's what it says.

Q Okay. And, in the next accounting period, it remitted an amount of 93,000 dollars, roughly, is that right?

A Are these six-month accounting periods here, or? The first one says January 1st, '89, the second January 1st, 1990.

Q That may be the illegibility of the copy. The first one should say July 1 to December 31, 1989. And the second January 1 --

A Oh, I'm sorry, beginning in January. No, this one says beginning January 1st, '89, and this one says beginning January 1st, 1990. They're looking at the same thing.

Oh, I'm sorry, it's -- I actually can't read at all what it says, what it said on the next

line. It says -- I'm sorry, I take that back. The first one referred to the effectiveness of the form. It's the period it covered, and I can't read it.

Q If you look at it, it will be block labelled A on the front page.

A Fine.

Q You'll see the time period for which this --

A Fine.

Q -- statement was filed.

A I'm sorry.

Q Are you with me now? It was 118,000 something in '89?

A Yes.

Q Okay. Now, would you look at these, can you look at these statements of account, and identify for me what the reason was for the reduction in royalties?

A I'm sure I can't, partly because I can't really read the first one.

Q If you look at -- sorry. Would you look at page 9 of both of the Exhibits, please?

A Nine?

Q There's a number in the bottom right-hand corner. I'm sorry. It's in the top right-hand

corner, it's labelled page 7.

A I see it.

Q In the bottom right-hand corner, it's labelled page 9, all right?

A I'm sorry. I can't answer your question. I'm just not that familiar with these forms.

Q Okay. And you are looking at the correct page? Do you see down in the right-hand side, the dollar amounts are added together, to arrive at the total that's reported on the first page?

A I see that.

Q Okay. And, in the second half of 1989, for which 118,000 was paid, can you tell what royalties were paid, that added up to 118,000?

A Oh, there's a Syndex surcharge. I guess that's the principal source of the difference.

Q Okay. So that, in terms of the base rate, the basic royalties, this cable operator actually paid more in the second period than in the first, correct?

A Apparently.

Q But his total went down, because he didn't pay syndicated excessivity surcharge in 1990-1, is that right?

A Apparently, yes.

Q Okay. Why didn't he pay?

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A I'm not certain.

Q You don't know? Do you know when the syndicated excessivity surcharge was in effect?

A No, not in detail.

Q Do you know whether it was, for what the syndicated excessivity surcharge was imposed?

A It was designed to compensate for the stations, the copyright claimants for the deletion of the FCC's Syndex rule, I believe.

Q All right. If you would assume, with me, that, in the first half of 1990, for the first time, virtually all cable systems were freed of the burden of paying syndicated excessivity surcharge.

And that's why this cable operator didn't pay in that period. Do you think that it's a fair comparison, Dr. Besen? To use the total numbers for those accounting periods?

A The total numbers.

Q The total royalty paid for those two accounting periods.

A Compared for what purpose?

Q For the purpose of measuring the effect that you intended to measure in your --

A Well, this obviously introduces some noise into the, into the data. I would not, I would never

deny here, there's noise in the data.

The question is whether or not the signals they were extracting from that noise appear, despite the presence of the noise. The signal, for example, expected a very large rate.

A very large value or share for movies shows up, despite all this noise. And the other claimants' shares are, apparently, not large enough to overcome the effect of the noise. I would never have argued there's no noise in the data.

Q Just looking at this one line, on Exhibit 21-x, to see you had originally indicated a 24 percent reduction in royalties. And an 83 percent increase in what you call local programs. Correct?

A Yes.

Q And a five percent decrease in movies, and series. And a 61 percent increase in sports. Do you see that?

A I do.

Q Now, if you looked just at the basic royalties paid by this cable operator in both periods, you would have an increase in the royalties, isn't that right?

A That's correct.

Q So, you'd have the royalties increasing,

and the local programming increasing. In the same direction, as opposed to inversely related, is that right?

A That's correct.

Q Would, do you think that the fact that you have them inversely related, in the current way you've done it, contributes to the negative co-efficient, or contributes to reducing the co-efficient for local programming?

A It might. It's hard to tell.

Q Okay. Finally, Dr. Besen, if you -- would you tell me what you understand by, to be meant by the term "multi-collinearity?"

A Yes. Multi-collinearity arises when there is so much correlation in the right-hand side variables, that is the independent variables, in a statistical analysis, that the standard errors of each of them are.

The effect is to increase the, substantially increase the standard errors, making the significance of individual co-efficients, making it more difficult to find significant individual co-efficients.

It arises whenever there's a high degree of correlation, a very high degree of correlation,

among some or all of the right-hand side variables.

Q So, there's a correlation among the variables themselves? They're related to each other, in terms of their changes. Is that right?

A Well, the changes. In this particular case, they are changes. But they're the, they're the, its the correlation among the right-hand side variables, correct.

Q And is one of the potential effects of a multi-collinearity situation that the signs of the co-efficients might be opposite what they should, what you would expect them to be?

A I believe the principal effect of multi-collinearity is to make the standard errors of the co-efficients larger.

Q All right.

A Not necessarily to vie with them.

Q Is it the case that, where a wrong sign appears in the results, that you need to investigate for the possibility of multi-collinearity problems?

A You might.

ARBITRATOR WERTHEIM: What's that word again?

THE WITNESS: Multi-collinearity, M-U-L-T-I-C-O-L-L-I-N-E-A-R-I-T-Y.

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ARBITRATOR WERTHEIM: C-O what?

THE WITNESS: L-L-I-N-E-A-R-I-T-Y.

ARBITRATOR WERTHEIM: Thanks.

CROSS EXAMINATION (resumed)

BY MR. STEWART:

Q Did you test for multi-collinearity in your study?

A I didn't.

Q If you were to, if one were to find multi-collinearity problems, would it be possible to modify the method by which the data is analyzed to provide estimates that are closer to the true values?

A I suppose. I'm not certain.

MR. STEWART: Thank you, Dr. Besen. I have no further questions. Okay. And, at this point, I'd like to move exhibits into evidence. My first is 6-x, which I introduced with Ms. Kessler, but for which Dr. Besen is the appropriate sponsoring witness.

DR. BESEN: I'm sorry. Am I sponsoring it? Please.

MR. STEWART: I know. Yes, you are, actually. 6-x I would move in.

CHAIRPERSON JIGANTI: 6-x or 16-x?

MR. STEWART: 6-x first. And then I would move for the admission of 16-x through 23-x. I

promise --

MR. LANE: Is 6-x admitted already?

MR. STEWART: It's not. Judge Wertheim raised the question of its relevance, and whether Ms. Kessler was a proper sponsor. So, I reserved on it until Dr. Besen's testimony.

CHAIRPERSON JIGANTI: Any objections concerning 6-x?

MR. LANE: I didn't, I wasn't, I don't recall Dr. Besen indicating he had any knowledge of this. And, quite frankly, I thought it had been admitted already. And so I did not --

CHAIRPERSON JIGANTI: Are you looking at 6 or 16?

MR. LANE: 6-x.

ARBITRATOR WERTHEIM: This has been produced on discovery, as the underlying Dr. Besen's testimony.

MR. LANE: No, my understanding, this was produced by Mr. Stewart. This is not a list that was produced for him, in discovery.

ARBITRATOR WERTHEIM: But it is drawn from?

MR. LANE: Yes.

MR. STEWART: Your Honor is correct. We,

this is simply a reproduction of the stations included in the viewing data that we were provided by Mr. Lane, as underlying Dr. Besen's study.

The only -- as I've indicated at the bottom, the source includes Cable Data Corporation. The only additional information from cable Data Corporation was the city, in which the station was located.

CHAIRPERSON JIGANTI: Mr. Lane?

MR. LANE: I guess I'd have a question for Dr. Besen, if he knows if these are the stations in his study.

DR. BESEN: I don't know that from memory.

ARBITRATOR WERTHEIM: Were they some kind of Form 3, when they were produced in discovery?

MR. LANE: I really don't know how they --

ARBITRATOR WERTHEIM: Mr. Stewart?

MR. STEWART: Pardon me?

ARBITRATOR WERTHEIM: Transmittal letters, or something like that?

MR. STEWART: We do. I must say that -- this is a, I'm handing Mr. Lane a copy of a printout of the file that was, the file that was provided to us in discovery, with the designation "Data '92.XLS."

We were given one, and I'm handing him a

copy of the memo dated September 7, 1995, that lists the similar data file, Data '90.XLS, and '91.XLS, '92.XLS. And those were the files in which the list of stations was produced.

ARBITRATOR WERTHEIM: We don't seem to have loose copies of the exhibit, which I guess is the first --

MR. STEWART: Oh, I'm sorry. I didn't make additional copies. I'll hand mine to the panel.

ARBITRATOR WERTHEIM: Oh, I had this marked in my -- is this 6-x or 16-x?

MR. STEWART: The one I've handed you is 6-x.

ARBITRATOR WERTHEIM: Oh, okay.

MR. LANE: Look, I'll check it, and, subject to my check -- I don't have any reason to think John can't copy.

CHAIRPERSON JIGANTI: Accepting his representation?

MR. LANE: Yes.

CHAIRPERSON JIGANTI: You have no objection to it?

MR. LANE: Correct.

CHAIRPERSON JIGANTI: Any other objections to it? 6-x?

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MR. STEWART: 6-x.

CHAIRPERSON JIGANTI: 6-x will be admitted.

(Whereupon, the above-referred to document was admitted into evidence as NAB Exhibit No. 6-x.)

CHAIRPERSON JIGANTI: The next?

MR. STEWART: The next are 16 through 23-x, 16-x through 23-x.

CHAIRPERSON JIGANTI: Any objections to any of these?

MR. LANE: 16, I object to. No sponsoring witness. The data are not data that were sued by Dr. Besen in his study.

ARBITRATOR WERTHEIM: What number are you talking about?

MR. LANE: 16-x. Okay, let me just go through them.

CHAIRPERSON JIGANTI: Well, let's go -- any objections to, we'll take one at a time. The first one is 16. The objection is that they weren't used by Dr. Besen.

MR. LANE: Right. Obviously, the call-signs. Since I just agreed to 6-x, I don't object to

that. But the numbers, I would object to the three columns under "Full-time Distant Form 3 Subscribers."

And those are not numbers that were included in Dr. Besen's study, nor were they numbers he could verify.

CHAIRPERSON JIGANTI: All right. Anybody join in Mr. Lane's objection? Okay. Mr. Stewart, any response to that?

MR. STEWART: Yes. I asked Dr. Besen, and I established with him that the subscriber numbers were a part of the database that he, that was provided to us as underlying his testimony.

That he had received information about carriage and subscriber numbers for all Form 3 systems from Mr. Larson. And that is the source, the same source as the subscriber numbers shown on Exhibit 16-x.

CHAIRPERSON JIGANTI: Any response, Mr. Lane?

MR. LANE: I don't recall him saying, but that's -- if Mr. Stewart has the source of that, and I can look at it, maybe I can agree to this, but.

MR. STEWART: Well, I can show you that. I'm handing Mr. Lane a printout of the BASEDATA file, which was provided to us. Which provides subscribers

for the, for the, all systems in that same.

This was drawn from a larger database that provided distant subscribers for all of the Form 3 systems, throughout this entire period, which was used by Dr. Besen for his analysis.

MR. LANE: Well, as I understand, this, what Mr. Stewart has just handed me, this is an analysis of subscribers for individual systems, where Exhibit 16-x is a, the subscribers are related to stations.

So, I don't know how the two relate at all, because what he's just handed me is numbers of subscribers for individual systems. And I wouldn't know how to translate that to the station numbers.

So, and I don't believe that Dr. besen did that. So I think there has to be a sponsoring witness for it.

CHAIRPERSON JIGANTI: Any response?

MR. STEWART: The subscriber numbers on 16-x are total subscribers. What I showed Mr. Lane was system by system subscriber data that was among the data that Dr. Besen provided, had used.

CHAIRPERSON JIGANTI: I don't know that I understood your answer. Distinguish what?

MR. STEWART: What I had was a printout,

that I got from Dr. Besen, that showed the number of subscribers to a, to each of the 208 systems. They also had the data for all of the other systems, all the other Form 3 systems, from Larson.

If you take the -- and then, each system carried a certain set of distant signals, also in this database. If you took those all, and multiplied them, you come up with totals.

The total we put on 16-x, we didn't go through that machination to obtain. We took them off the summary printouts that Larson provides all the parties in this proceeding.

But it's the same carriage data that Dr. Besen had available, and which was part of the data that he provided.

MR. LANE: I think Mr. Stewart has just described that it was not part of the data, that it came off a different database and, somehow, maybe they can be added up.

But that's fine, and I, but he has to have a sponsoring witness to explain that. And Dr. Besen is not the person.

CHAIRPERSON JIGANTI: It's the ruling of the Panel that the exhibit will not be admitted.

MR. LANE: Thank you.

CHAIRPERSON JIGANTI: Next one? Thank

ARBITRATOR WERTHEIM: For lack of a sponsoring witness.

CHAIRPERSON JIGANTI: For lack of a sponsoring witness. Next one?

MR. STEWART: 17 through 23-x.

CHAIRPERSON JIGANTI: Okay.

MR. LANE: I would object to 17, 18, 19, 20 -- I'm sorry, 17, 18, and 19. As not related to any testimony or exhibits that have been presented in this case. I don't believe even by incorporation by reference. Certainly, not by us.

CHAIRPERSON JIGANTI: Is it, you're making a relevancy argument, is that it?

MR. LANE: Yes. Relevance. Irrelevant, immaterial. And not -- one of the things that is whether the data relate to something that has been presented in this case. None of these three exhibits relate to something that's been presented in this case.

CHAIRPERSON JIGANTI: Mr. Stewart?

MR. STEWART: These three exhibits relate to -- and the first one, actually, was taken from the testimony that Dr. Besen provided in the 1990 proceeding. He presented that testimony under oath,

and he was cross-examined about it.

It is exactly in order to provide the Panel with the basis for looking at the difference between his 1990 study and his current study that these allow.

I think Dr. Besen freely testified that he had previously done a study, in 1990. And that we're entitled to ask him what the differences were, both in results and in methodology.

CHAIRPERSON JIGANTI: So --

MR. LANE: He didn't present the study in this case, and I don't believe it's incorporated by reference. That's my point. What we did is not in the record in this case. It's not in the record of this case.

ARBITRATOR WERTHEIM: Doesn't this go on credibility?

MR. LANE: Of what?

ARBITRATOR WERTHEIM: Of the form of a prior inconsistent statement.

MR. LANE: It may not be inconsistent at all.

ARBITRATOR WERTHEIM: But that's for us to determine.

MR. LANE: All you have is one -- but, all

you have is one page from that study. You don't have the testimony. You don't have the original study. You have one page, and two cross-examination exhibits.

CHAIRPERSON JIGANTI: Well, your first objection was irrelevance.

MR. LANE: Right.

CHAIRPERSON JIGANTI: And then you seem to have changed.

MR. LANE: No. I'm still going on relevancy, but I'm responding to Judge Wertheim's question.

CHAIRPERSON JIGANTI: All right. If your -- your objection is to relevancy?

MR. LANE: Correct.

CHAIRPERSON JIGANTI: And that's the only objection?

MR. LANE: Correct.

CHAIRPERSON JIGANTI: Okay. That exhibit will be admitted.

(Whereupon, the above-referred to document was admitted into evidence as NAB Exhibit No. 17-x.)

Okay. Next exhibit. Number 18.

MR. LANE: I have the same objection.

CHAIRPERSON JIGANTI: Response, Mr. Stewart? The objection is to relevancy.

MR. STEWART: Same response. It goes to the credibility and weight of his current study.

CHAIRPERSON JIGANTI: It will be admitted.

(Whereupon, the above-referred to document was admitted into evidence as NAB Exhibit No. 18-x.)

CHAIRPERSON JIGANTI: Number 19?

MR. LANE: Same objection.

MR. STEWART: Same response.

CHAIRPERSON JIGANTI: Same ruling.

(Whereupon, the above-referred to document was admitted into evidence as NAB Exhibit No. 19-x.)

CHAIRPERSON JIGANTI: Twenty? Any objections to 20? Anybody else have any objections? Okay. It will be admitted.

(Whereupon, the above-referred to document was admitted into evidence as NAB Exhibit No. 20-x.)

CHAIRPERSON JIGANTI: Twenty-one? Are you

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offering that?

MR. STEWART: Yes.

CHAIRPERSON JIGANTI: And any objections to it? Hearing no objections, it will be admitted.

(Whereupon, the above-referred to document was admitted into evidence as NAB Exhibit No. 21-x.)

CHAIRPERSON JIGANTI: Twenty-two?

MR. LANE: I don't have an objection, per se, but it's totally illegible. And it's particularly illegible on what I consider a key page, which is page 2.

As you can tell, page 2 has the number of subscribers, and the monthly fees for basic services, that are reported in Block E. Also, we can't see, on page 3 of the exhibit, the station carriage complement, but.

CHAIRPERSON JIGANTI: Do those lead to the number 118,000?

MR. LANE: They certainly, it would be. Certainly, one way to check on that number, Your Honor, is to multiply out the number of subscribers by the monthly rate times six.

And then you could determine if they

reported what's called the gross receipts on space K correctly. And, from that, you directly derive the royalty fee.

That was on page 9, to which Mr. Stewart referred. You'll see, at the top of that page, there's a gross receipts number. For example, in --

CHAIRPERSON JIGANTI: Five million?

MR. LANE: Yes. And that would be derived directly from those numbers on page 2,or should be derived directly from those numbers on page 2.

CHAIRPERSON JIGANTI: Mr. Stewart, any response?

MR. STEWART: Yes, I -- it's, the illegibility of it is a problem with the Copyright Office.

But I would point out that the data that Dr. Besen provided, which I've already shown to Mr. Lane, does have the rate and the number of subscribers for these cable systems.

The only thing that the data didn't show was the difference between the basic and Syndex royalties, and that page is legible on each of them.

CHAIRPERSON JIGANTI: That's page 9?

MR. STEWART: I can endeavor to --

CHAIRPERSON JIGANTI: The Syndex?

MR. STEWART: I can endeavor to try to, I can endeavor to get it,a more legible copy. But I believe it's, it will be very difficult to do so.

CHAIRPERSON JIGANTI: And is it your testimony, then, or your statement, that the, what you presented Mr. Lane was just a mechanical matter of adding up those numbers?

And that you don't know if they add up to the numbers that are on page 2, or would be on page 2, if it were a legible copy, do you?

MR. STEWART: Well, on page 2 are the rate and the number of subscribers. Over on page 9, number 9, at the bottom --

CHAIRPERSON JIGANTI: Yes.

MR. STEWART: -- is, in the rectangle, at minimum fee -- I'm sorry. Above that rectangle is the amount of gross receipts. The gross receipts is the product of those numbers. You can then take that number, and calculate the royalty components.

And what I was suggesting is that Mr. Lane's database, for this very system, that Dr. Besen provided us, has the numbers for subscribers and rates in it already.

MR. LANE: I understand he could have produced that as an exhibit. He didn't. He produced

this as an exhibit. This is what we have to deal with.

MR. STEWART: It's because Mr. Lane's analysis did not properly distinguish between syndicated excessivity royalties.

MR. LANE: I did not do any analysis of this, so.

ARBITRATOR WERTHEIM: Wait a minute. As I understand it, you're not making an objection of this being --

MR. LANE: That's right, Your Honor. That's right. Thank you.

ARBITRATOR FARMAKIDES: Well, I, for one, would like to see these replaced, if possible.

MR. STEWART: I'll try.

ARBITRATOR FARMAKIDES: And, if we cannot, I'd like to know why.

MR. STEWART: I'll try. It's because they're on microfilm, and the copying that's available here in the Copyright Office produces these copies.

ARBITRATOR FARMAKIDES: Why don't you tell them it's for this proceeding, give me a decent copy?

CHAIRPERSON JIGANTI: Number -- Exhibit 22? Exhibit 22 will be admitted.

(Whereupon, the above-referred

to document was admitted into evidence as NAB Exhibit No. 22-x.)

CHAIRPERSON JIGANTI: Twenty-three? Same objection, Mr. Lane?

MR. LANE: Well, the same problem, Your Honor. Your time was correct. I never objected to 22.

MR. STEWART: I'll try to provide more legible copies.

CHAIRPERSON JIGANTI: I think 23 will be admitted.

(Whereupon, the above-referred to document was admitted into evidence as NAB Exhibit No. 23-x.)

CHAIRPERSON JIGANTI: Anything further, Mr. Stewart?

MR. STEWART: No, thank you, Your Honor.

MR. NEIMAN: Your Honor, if I may, I want to apologize for not moving at the end of my cross examination. I just wanted, one of the exhibits that I wanted moved into evidence. Would now be the appropriate time, or should I wait until the end of the --

CHAIRPERSON JIGANTI: Do it now.

MR. NEIMAN: Okay. Your Honor, I'd like to move into evidence Joint Sports Claimants' Exhibit 33-x.

CHAIRPERSON JIGANTI: Any objection to this exhibit?

MR. LANE: Well, it's an incomplete copy of the testimony, Your Honor.

CHAIRPERSON JIGANTI: If you, well, you do have the other, the rest of the testimony, do you not?

MR. LANE: Yes, but it's not in the record.

CHAIRPERSON JIGANTI: This is not in the record?

MR. LANE: I don't believe this, the full testimony is in the record, in this case.

CHAIRPERSON JIGANTI: You do not believe it is, or you?

MR. LANE: We certainly did not incorporate it by reference.

MR. NEIMAN: Your Honor, I have a copy of it here. If Mr. Lane wishes to designate any portions of it into the record, he's free to do so.

CHAIRPERSON JIGANTI: Mr. Lane, it's available to you, if you wish to see it. I'm going to

reserve ruling, until you have had a chance to see the entire --

MR. LANE: Well, I would like to have the entire testimony put into the record. I think that's what we have done with other documents that are incomplete.

And there's, you know, to take, obviously, what are pages 14 through 17 of, and it clearly goes beyond that. It's a very small portion of testimony.

CHAIRPERSON JIGANTI: Mr. Neiman, are you suggesting that the entire document be placed into evidence? What's your response?

MR. NEIMAN: Your Honor, my understanding of what the rule provides is that we're free to move in the portion. And, then, Mr. Lane is free to designate any other portions that he would like. So, we would like to move in just the portion.

CHAIRPERSON JIGANTI: I don't recall the exact wording of the rule. That sounds familiar. Is that correct, Mr. Lane? Is his rendition of the rule accurate?

MR. LANE: Let me look up the rule, Your Honor. At the moment, --

ARBITRATOR WERTHEIM: Well, assuming he is correct, are you saying you want to designate the

entire document?

MR. LANE: I would designate the rest, correct, Your Honor.

CHAIRPERSON JIGANTI: That's up to you. Do you want to?

MR. LANE: Yes.

CHAIRPERSON JIGANTI: All right. The motion here is to admit Exhibit 33. That it will be admitted.

(Whereupon, the above-referred to document was admitted into evidence as Joint Sports Claimants' Exhibit No. 33-x.)

CHAIRPERSON JIGANTI: Mr. Lane, it's up to you. Do you want to, at this time, designate the rest of it?

MR. LANE: Yes, I'll designate the rest of the testimony of Stanley H. Besen, before the Copyright Tribunal, filed on August 16th, 1993, in the record. And I will bring a copy for the Panel.

CHAIRPERSON JIGANTI: All right.

ARBITRATOR WERTHEIM: Well, that, you just, you're just moving in the portion that was prepared on direct, not on cross, is that right?

MR. LANE: I'll designate everything, if

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1 that's fine. It'll be quite wordy, but.

2 CHAIRPERSON JIGANTI: You're designating -

3 -

4 MR. LANE: I think I'm just designating

5 the written.

6 CHAIRPERSON JIGANTI: You're designating

7 the?

8 MR. LANE: The written testimony, just as

9 I stated. The rest of this document is just, it's

10 similar to, in form, to Dr. Besen's testimony that's

11 been presented here.

12 It's the written, direct testimony of Dr.

13 Besen in the earlier case. And I'll designate that

14 portion.

15 CHAIRPERSON JIGANTI: All right. Any

16 objections to that?

17 MR. HESTER: Well, I would move for the

18 designation of his oral testimony, in that event, if

19 his written testimony is to be designated as part of

20 this record.

21 CHAIRPERSON JIGANTI: All right. Any

22 objection?

23 MR. HESTER: Which would be direct and

24 cross.

25 CHAIRPERSON JIGANTI: Any objection to the

1 designation of the entire oral testimony, in addition

2 to the written testimony? Both of those matters will

3 be admitted.

4 You will supply, Mr. Lane, you will supply

5 the written testimony. And, Mr. Hester, you will

6 supply all the oral testimony.

7 MR. HESTER: Can I trade with Mr. Lane?

8 MR. GARRETT: Send it along with the.

9 CHAIRPERSON JIGANTI: All right. Anything

10 else, Mr. Neiman?

11 MR. NEIMAN: No, Your Honor.

12 CHAIRPERSON JIGANTI: All right. Any

13 cross examination of Dr. Besen? Mr. Gottfried?

14 CROSS EXAMINATION (resumed)

15 BY MR. GOTTFRIED:

16 Q Good afternoon, Dr. Besen.

17 A Good afternoon.

18 Q Barry Gottfried. I'm here representing

19 Devotional Claimants. Dr. Besen has promised to give

20 me just the answers I want, so that this will go very

21 quickly.

22 Dr. Besen, if I heard you right this

23 morning, I think you said that the conclusion that you

24 wanted the Panel to go home with, about our

25 programming, the devotional programming, was -- and

1 I'm not that good a note taker. But it's small

2 relative to movies. Is that right?

3 A Very small.

4 Q Let me show you some numbers, Dr. Besen.

5 Look at the years. 3.8, 4.3, 3.9. Wouldn't you agree

6 with me, Dr. Besen, that those are very small,

7 compared to the 85 percent that you assigned to

8 movies?

9 A I'm not sure what those numbers are.

10 Q I just asked you. You said --

11 A Oh, are the numbers small.

12 Q You said the conclusion was that the

13 numbers are very small, and I'm asking you, wouldn't

14 you agree with me that those are very small numbers,

15 compared with the 85 percent?

16 A They seem to be.

17 Q I didn't hear you.

18 A They seem to be.

19 Q Now, again, following up on something that

20 happened this morning, a question that arose. What I

21 think you referred to as some anomalous, anomalous

22 cases, where there wasn't -- and I think you actually

23 talked about devotion, but I'm not sure.

24 But let's, say, take the case of devotion.

25 There is no devotional programming prior to a change.

1 Do you have that in mind?

2 A Yes, I do.

3 Q And then, a signal was picked up, and

4 there was some. There was some devotional

5 programming. Do you understand that?

6 A I understand that.

7 Q And what you said was, I believe, that you

8 had to throw that out?

9 A I did throw it out.

10 Q And I think what you said was that would

11 be infinity, and that's why you threw it out?

12 A Well, the percentage change in, would be

13 zero in the first period, and some number later.

14 Q And, following up on a question from Judge

15 Wertheim, this change could be a response by a cable

16 operator, to the need to have some devotional

17 programming on a distant signal, isn't that correct?

18 A I would disagree with that.

19 Q Okay. I thin what you said was, well, you

20 didn't care, because you have other cases where maybe

21 the devotional programming was doubled?

22 A Or simply changed.

23 Q But, if a cable operator, the hypothetical

24 operator, thought he needed some devotional

25 programming.

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He needed the five hours to get a subscriber to come in, but he didn't want ten, because he could do the job with five. Then the changes from five to ten wouldn't reflect these changes that you threw out, would they?

A I'm not sure I understand the question.

Q It wouldn't make up for the fact that you threw out from your sample the one where the cable operator decided he needed some. Maybe he didn't want to double the devotional programming. He just wanted some, in order to get those subscribers onto his system.

A Are you saying that going from five to ten has no value?

Q No. I'm saying that the fact that a cable operator might not want to go from five to ten doesn't mean he doesn't want to go from zero to five. And the fact that he -- that's what I'm saying.

A I'm sorry. Just so I understand.

Q The fact that he doesn't want to go from five to ten hours doesn't mean that he doesn't want to go from zero to five.

A Does five to ten mean it has no value?

Q Well, I'm not here asking the question.

A In your example. Well, I'm just trying to

understand your question.

Q You can't -- can you answer that question, Dr. Besen? I guess I'm just not being clear enough. Maybe I can explain it again.

What I want to know is, is the fact that a cable operator -- let's call him cable operator X, thinks I don't need ten hours of devotional programming, because I can get a subscriber with five hours. Have you got that in your mind?

A I do.

Q Does that mean that he doesn't think that he doesn't want to go, he needs five hours, instead of zero?

A He may decide that he needs, wants five hours. The question, however, is if we have observations where he goes from five to ten, and going from five to ten, there's no value.

Then, in fact, that's saying that the margin, devotional programming has no value in the competitive market. It would fetch no price.

MR. GOTTFRIED: Well, I guess I question --

ARBITRATOR WERTHEIM: That's true for all programming, if you reach some margin, is it not?

THE WITNESS: I'm not -- my point is, one

that I think I've made here before, before the CRT. What's relevant for determining a market place value of programs is their value at the margin.

I understand the hypothetical, going from five -- and maybe I don't. Going from five to ten, in the hypothetical, has no value.

That would mean that the competition between the devotional programmers on one of the stations, and the devotional programmers on the other to sell, would, in fact, result in a zero price, because the operator would simply play one off, against the other.

And, in fact, doesn't value the programs at the margin. So, in fact, in terms of getting the competitive market value, the right market value, if I understand your hypothetical, is zero.

CROSS EXAMINATION (resumed)

BY MR. GOTTFRIED:

Q I guess I'm having real trouble explaining this question to you. Obviously, I'm not clear. Was the answer to my question yes, that the fact that he doesn't want ten hours instead of five mean that he doesn't want five instead of zero?

A It's entirely possible that he wants five instead of zero. The question --

Q That was my only question, Dr. Besen.

A Well, I --

Q The answer is yes, is that correct? It doesn't mean that.

A No. I'm questioning the relevance of that to the issue of shares.

MR. GOTTFRIED: Your Honor, could I have a ruling that he, the witness is here to answer questions, and not to speculate on the relevance of the thing?

MR. LANE: Well, could we have a clear question, because your question was --

CHAIRPERSON JIGANTI: Mr. Lane. Mr. Lane. Dr. Besen, I ask you to answer the question that Mr. Gottfried asks, and it's up to Mr. Lane to clarify it, if he wishes to, at a subsequent time. Just answer Mr. Gottfried's question.

THE WITNESS: Just --

CHAIRPERSON JIGANTI: Mr. Gottfried, would you ask your question again?

MR. GOTTFRIED: Well, I got an answer, Your Honor.

THE WITNESS: Just as a question. Am I allowed to then, if he says yes, can I then go on and explain the answer, or is that?

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ARBITRATOR WERTHEIM: You can explain your answer, but you can't argue with the question.

THE WITNESS: Fair enough.

MR. GOTTFRIED: Thank you, Your Honor.

CROSS EXAMINATION (resumed)

BY MR. GOTTFRIED:

Q Now, to follow up on a question that Judge Farmakides asked this morning. I want you to hypothesize that, hypothetical cable subscriber, all right. I want to call her Debbie Bracket.

That's doesn't mean anything to you, but let's just call her Debbie Bracket. All right. And what she comes in and tells us is she watches five hours of "The 700 Club" every week.

And, also, her family watches another 15 hours of television. She tells us that the reason she spends 25 dollars a month is to get that five hours. And that's the only reason she spends money to get cable. Do you understand the hypothetical?

A I do.

Q Now, you don't weight your numbers to account for that fact, do you? In your weighting, this five counts as five, this 15 counts as 15, isn't that correct?

A No, I don't believe so. If those are, in

fact, the hours on the distant signals that are being carried, I let the data tell me. The relative values to the operator applies to the devotional programming, on the one hand, and the other programming on the other.

Q I'm just talking about your weighting here, Dr. Besen. I guess, again, I'm not being clear. Dr. Farmakides asked you about your weighting system.

But the way you weight, you weight these programs by one hour, is that right? Each of these fifteen programs that she watches get rated by one, to account for her viewing, is that right?

A That's within categories. I weight by viewing, that's correct.

Q And each of these hours gets rated by one, is that correct?

A Correct.

Q And there's no weighting to account for the fact that she says these are the ones that get her to subscribe?

A No, that's not correct.

Q You weight for that?

A No. The statistical analysis, in terms of what the operator's willing to pay for. If, in fact, the reason the cable operator carries this distant

signal was because "The 700 Club" was highly valued by his subscribers, that would show up as a high weight for the devotional programming.

Q Again, Dr. Besen, I'm having trouble. I'm just talking about the weighting. I understand what you say your statistical analysis shows. I'm just talking about your viewer ratings, do you understand that?

A This is the construction of the variables?

Q Yes.

A You're exactly correct.

Q You do not weight that more heavily?

A No. I let that be done in the statistical analysis.

Q Thank you, Dr. Besen. I want to go back to a question that you were asked by Dr. Wertheim, by Judge Wertheim, the first time you were here. And it was on page 36-16 of the transcript.

And I don't know if you recall the exchange, but Judge Wertheim was asking you whether, was inquiring about the weighting, and whether that made any difference. The weight for viewing, instead of hours. Do you recall that?

A Yes.

Q And I think, if I have what you say here,

you say there are essentially the same result in the weighting case than in the case in which we do no weighting at all. Is that what your testimony was?

A Yes, I believe that's correct.

Q Did you bring us the hours regression?

A I don't think they're reported here, no.

Q Well, I had them run, Dr. Besen. I don't know if you can confirm them or not, but I'll get out an exhibit and mark it as Exhibit 5-x.

(Whereupon, the above-referred to document was marked as Devotional Exhibit No. 5-x for identification.)

Now, what I've done here is I've tried to give you the unweighted regression, and the weighted regression. Can you confirm that this unweighted regression is correct?

A I don't remember the results that well.

Q All right. Well, I'll have to put it in through a rebuttal witness, then. But let's assume for a second that these were the regression for the weighted hours. Would you represent to the Tribunal that these are essentially the same results?

A Well, they're very similar, yes.

Q So the fact that this -- getting back to

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the question Mr. Stewart asked you, that the hours regression shows that our programming, and the movies, series programming are the only one with positive value, is essentially the same as what you've told the Tribunal?

A Well, in the first place, you haven't reported the standard errors here, so I don't, I can't tell from this whether these are significant.

The point is clearly, the overwhelming result here, in both cases, is that movies and series get either 90 or 86 percent of the pool, regardless -- whether, in one case, using just hours and, in the other, viewer weighted hours. Those are not very different.

Q Is that all you care about, in this study, Dr. Besen?

A I care about that to a considerable degree, obviously. The other co-efficients are sort of consistently measured with significant error, and they tend to be small, very small, relative to movies and series. But, yes, that's correct.

Q I don't think Mr. Lane would object to having the hours regression define the share.

A As long as Mr. Lane doesn't object, it's okay with me. Well, I prefer to do it by weighted

hours, but, if you tell me you want to do it by hours, you can do that.

Q Let me ask you something about that. On page 20 -- I turn you to page 22 of your testimony, your written testimony. In the first full paragraph, starting in the middle of the page, see the second to last line there.

You say -- well, let me read the last sentence for you. "An analysis accounting for quality differences," and that's your weighting, is that right?

A Correct.

Q "[A]cross programming categories, within a distant signal, is 'conceptually superior' to one that weights each hour of programming identically." Do you see that?

A I do.

Q And that's where you've talked to us about quality, and how you view quality, is that correct?

A Yes. I think it's a mistake to just use hours, because every hour of programming in a given category are not the same.

Q Do you know whether the hours regression is statistically superior to the weighted hours regression analysis?

A I don't know. I think they're probably, actually, probably not much difference between them, in that regard.

Q So you, sitting here today, you can't tell us which of these regressions gives you a better fit from data?

A From a statistical perspective, that's correct.

ARBITRATOR WERTHEIM: Is your statement in the -- I don't see it right here. But do you acknowledge that your testimony is you get the same results from the weighted and the unweighted figures?

How can that be so, Dr., when the consequence of the weighting is the change of negative to positive co-efficients, and positive into negative?

THE WITNESS: Well, I suppose it depends on what standards for consistency one adopts. It seems to me that it's, the overwhelming and consistent result is the fact that movies and series get 85 or 90 percent, regardless of which way one does it.

The other co-efficients are typically, here, the other shares are typically estimated with bigger errors. In fact, unfortunately, this table does not tell me the standard errors of these.

I think, actually, I think it's a fair

conclusion that devotional and local tend to be small numbers. Whether exactly zero, or only slightly greater than zero, I can't say. They're clearly small, very small, relative to movies and series.

CROSS EXAMINATION (resumed)

BY MR. GOTTFRIED:

Q For example, the numbers I put on the board.

A That's correct.

Q It doesn't bother you that sports comes out negative, in this way.

A I'm not sure what bothers me means. Yes, I -- well, I'm not sure it bothers me. It's what the results show.

Q Well, I think you said you were giving us a generous number. Is that correct, Dr. Besen?

A Well, by doing it using the two standard errors, you get "a generous number," that's correct.

Q This hours regression gives us more than the number you gave us, doesn't it?

A I don't recall the precise number.

Q Well, they said 1.5 to 2.2. I can figure it out.

A That's correct, yes. This number's higher than the number you get by that calculation. Correct.

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Q Okay. Now, I want to go back to something else that came up the last time you were here. And that was where Judge Wertheim was asking you whether, why you just didn't use the viewer shares themselves, instead of going through this whole rigmarole, with regressions. Do you recall that?

A Yes.

Q And I think you said, I've got it right on 3701, that you get a lot of mileage out of looking at all this rigmarole. Is that what you said?

A I'm not sure I said exactly that. I think the point I was making is the one I tried to make here, earlier.

Which is there is no necessary relationship between the viewing hours for any category of program, and the number I get as it s value, the share equation.

It may, coincidentally, turn out to be similar, but, in fact, it seems to me that one wants to use actual operator behavior to try to determine whether or not those viewing hours ought to have the same weights.

Which is, in effect, what would happen, if you gave them, assigned people shares by viewing hours. Or whether some of the viewing hour categories

ought to get higher weights, and others ought to get lower weights.

MR. GOTTFRIED: I'll tell you what I did, Dr. Besen, to try to figure out what you were talking about on mileage. If you look on page 24, in footnote 36.

ARBITRATOR WERTHEIM: Excuse me. What is this reference to mileage?

MR. GOTTFRIED: Oh, I'm sorry. That's on page 3701 of the transcript. It says "I believe what this shows is that" --

ARBITRATOR WERTHEIM: Oh, in the previous testimony?

MR. GOTTFRIED: That's correct.

THE WITNESS: I'm on page 36.

CROSS EXAMINATION (resumed)

BY MR. GOTTFRIED:

Q On page 36.

A Yes.

MR. GOTTFRIED: Footnote -- I tried to read that article, by Franklin Fisher.

CHAIRPERSON JIGANTI: Page 24?

MR. GOTTFRIED: No, 36.

CROSS EXAMINATION (resumed)

BY MR. GOTTFRIED:

Q You say that there's been accessible discussion of the use of statistical analysis. I was going to tell you that accessibility is in the eye of the beholder. But I did check it. I did try to read that study. Who is Franklin Fisher, by the way?

A Franklin Fisher is a Professor of Economics at MIT.

Q Does he have something to do with Charles River Associates?

A Yes. He is a Senior Consultant of Charles River Associates.

Q And that's the organization you're with?

A Correct.

Q I assume you know Dr. Fisher?

A I do.

Q And you think he's a good statistician and economist?

A Excellent.

Q Okay. Now, what Dr. Fisher says, on page 713 to 714 of that article, is that it's important, when you do a multiple regression analysis, to make certain that you've included -- and I have a quote here.

"All the variables likely to have a large effect on a depending variable. And can safely assume

that the remaining effects are not correlated with the independent variables included." Did you understand what I?

A I did.

Q And do you agree with that?

A I do.

Q And he further says that the way to ensure that you've included all the variables is to first examine the variables that "one thinks are actually important. And then ask what happens when additional variables are included." Do you agree with that?

A I do.

Q So, to bring you back down to earth, to this study. I guess the dependent variable in your study is the changes in royalty, is that correct?

A Percentage differences.

Q Percentage difference. And you're looking for an independent variable that explains those changes, is that correct?

A I am.

Q And --

A Well, I'm actually looking, primarily, to the programs on the distant signals, to see how they explain that.

Q Okay. Whether there's anything on the

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1 distant signals that would explain those changes?
2 A Correct.
3 Q And what Dr, Fisher is saying, if I
4 understand him right, is that, before you can have any
5 confidence in any independent variable that you pick,
6 you better first have examined all the variables that
7 are important.
8 And test what happens when those variables
9 are added to your regression. Is that right?
10 A That's what he says.
11 Q And you agree with that?
12 A Yes.
13 Q Okay. And the independent variable you're
14 testing is, again, percentage changes in viewer hours
15 by program carriage. Is that right?
16 A Yes.
17 Q Okay. I know that's kind of sloppy. So,
18 what Dr. Fisher is saying is, before you can tell
19 whether this regression has any power, you first have
20 to examine whether there's another variable that's
21 important, and test what happens when it's added?
22 A He's interested in the effect of the
23 possible, essentially, exclusion of other important
24 variables.
25 Q Okay. Well, let me talk about another

1 thing that maybe tests changing what, the change,
2 percentage change, whatever.
3 Wouldn't you agree with me that adding a
4 signal will increase the royalties? Just adding that
5 many hours of programming, adding a new distant
6 signal?
7 A But that is, in fact, what I'm doing,
8 except that it's the programming.
9 Q But forget about the programming. If I
10 add seven times 24 hours -- 168 hours of programming.
11 Aren't I going to increase royalties, going to pay
12 more DSE's?
13 A Yes. But you're getting at that by
14 looking at the programming. You're doing it, because
15 of the programs on the distant signal.
16 Q Well, let me ask the question again. I
17 just wanted to know if it's your belief that adding
18 another distant signal will increase your royalties,
19 and taking one away will decrease royalties?
20 A Not independent of the programs the signal
21 contains.
22 Q Did you test to see whether that's true?
23 A It's implausible to me.
24 Q What?
25 A It's implausible that this is the

1 programming on the distant signal.
2 Q Well, then I guess I don't understand what
3 you're saying here, in footnote 36. You say here, in
4 the second sentence here.
5 "However, in terms of the explanatory
6 power of the analysis, the total hours regression
7 performs no better than a regression in which program
8 hours are separated into categories."
9 A From a purely statistical point of view,
10 that's correct. It doesn't say anything about the
11 relative -- if you believe that regression, then, in
12 fact, what you would do is you would assign the
13 royalties based purely on hours.
14 Q Well, this isn't by category, is it? This
15 regression you're talking about here. This is --
16 A I'm sorry. What page are we on?
17 Q Page 24, footnote 36. Total hours
18 regression. You;re talking about here whether
19 separating hours into program, into program
20 categories, results in a significant reduction in the
21 unexplained variance of the dependent variable R.
22 A That's correct.
23 Q Do you see that?
24 A Yes.
25 Q Is what you're saying there that you don't

1 get any better statistical explanation?
2 A In terms of?
3 Q Of changes in royalties. By dividing
4 things into categories, than by just using total
5 hours?
6 A In terms of the overall goodness of fit of
7 the regression, that's correct.
8 Q But it's your testimony, to Judge
9 Wertheim, that your regression shows that, by breaking
10 things into categories, you get a lot of mileage?
11 A That's because there seems to be, when one
12 does that, one gets substantial differences in the
13 weights to be applied to the various categories, and
14 those differences are statistically significant.
15 Q But you don't get any better regression
16 from that?
17 A Overall, in terms of the total goodness of
18 fit, no.
19 MR. GOTTFRIED: I have no further
20 questions.
21 CHAIRPERSON JIGANTI: Thank you, Mr.
22 Gottfried. Mr. Hester, will you be examining the
23 witness?
24 MR. HESTER: Yes.
25 CHAIRPERSON JIGANTI: About how long do

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you imagine it will be? I mean, a while?

MR. HESTER: Yes. I mean, it won't be ten minutes. It clearly will be at least a half hour. I'm, frankly, a little concerned about whether I can get it done by 5:30, but I will try to be as quick as I can.

CHAIRPERSON JIGANTI: All right. We'll take a ten minute recess, now.

(Whereupon, the foregoing matter went off the record at 4:55 p.m., and went back on the record at 5:05 p.m.)

CHAIRPERSON JIGANTI: Mr. Hester, you may proceed.

CROSS EXAMINATION

BY MR. HESTER:

Q Good afternoon, good late afternoon, Dr. Besen. My name is Tim Hester. I represent the Public Television Claimants. Let me begin by going, quickly, back to this discussion of why PBS was not included in your analysis.

Do you recall testifying, when you were here early in the month of January, that you didn't have the data for PBS that you needed, to include PBS in the analysis?

A Yes. That was accurate.

Q Now, as I understood your testimony today, you said, you seemingly said something different. You seemed to say that the problem was not one of lack of data, but was, instead, a judgment that you would have had to conduct a separate analysis, is that right?

A That's correct.

Q So do you have the data that would have allowed you to include PBS in the study?

A In a completely analysis. That is, it would have been a separate set of equations.

Q Well, you could have included PBS as one of your variables, along with movies and local programming, devotional programming, and sports. It could have been simply one more variable in your analysis, correct?

A Except when I, when a distant signal was added, for example, there presumably would be little or no change in public programming. So that variable would have, very often, just been zero.

Q There would be a change in the viewing hours, correct?

A Not if they continued to -- it might be because of changes in the viewing of the distant signals already being carried. But those would be

small. I was, remember, I'm looking for large changes, because I'm trying to separate out the effects of those changes.

ARBITRATOR WERTHEIM: What would happen where there's already one public television, but then there's a distant signal, and it changes to bring in another one?

THE WITNESS: Oh, if there were, then I would -- one could analyze, separately, those observations, where a cable system was carrying a distant public station and added another one.

There's no question about that. The question I'm dealing with is what would be the effect, if one added a commercial station to the amount of public programming being carried on all of the distant signals carried by that system.

And, since there's no public programming on a commercial station being added, by definition, that variable would be, essentially be zero. Unless there was some change in the programming of signals already being carried.

CROSS EXAMINATION (resumed)

BY MR. HESTER:

Q The percentage change in the viewing for public television would be zero, is that what you

mean?

A Yes, that's correct.

ARBITRATOR WERTHEIM: But we have evidence that there are quite a few systems that carry more than one distant signal.

So doesn't that suggest that, in any particular study period, you have a fair number, perhaps, of changes in one distant public signal to two. That which you say could have been analyzed quite readily.

THE WITNESS: I don't believe there will be a large number in that case. Number one, -- and, if I had done it, it would have been a completely separate analysis than the analysis that I carried out here.

I mean, effectively, there would be one equation for the public stations, and one equation for all the commercial stations being added.

ARBITRATOR WERTHEIM: Why don't you just call this -- in that situation, where you start out with one distant signal public station, and a second one is added, that you could very well do the same analysis as you presented?

THE WITNESS: You could. It would be a, it would be the same type of analysis, on a different

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1 set of data.

2 So, think of it as an analysis of the

3 addition of public stations, and an analysis of the

4 addition of commercial stations. One could have done

5 that. I did not do that for the non-commercial

6 stations.

7 ARBITRATOR WERTHEIM: Thank you.

8 CROSS EXAMINATION (resumed)

9 BY MR. HESTER:

10 Q Now, I believe you've testified today that

11 you consider the adjustment for viewing hours to be a

12 weighting of the programming within a particular

13 category, is that right?

14 A That's correct.

15 Q And is that adjustment also a weighting of

16 the programming between or across categories?

17 A I intended to do that. The equation is,

18 the estimates of the co-efficients are intended to

19 provide the weights across the categories.

20 Q But doesn't the viewing hour adjustment

21 provide a weighting across categories of programming?

22 A Well, again, its primary intent is to

23 adjust, allow for, adjust for differences in the

24 programs within categories.

25 So that, for example, highly popular

1 programs get greater weight than less popular

2 programs, within a category. And then the statistical

3 analysis is intended then, to determine what weight to

4 afford to programs in different categories.

5 Q So, you would not call it a weighting

6 across categories? That's not the way you would?

7 A Its intent was to make the programming

8 within categories more homogeneous.

9 ARBITRATOR WERTHEIM: Does Mr. Stewart's

10 reference to what he called the remarkable coincidence

11 suggest that your intention may not have been fully

12 carried out?

13 THE WITNESS: No, I don't think so.

14 Because, as I said, I could have done all those

15 adjustments that I described here. And, then, still

16 gotten shares very different from the weighted hour

17 share, as I tried to show in the numerical example

18 that I presented earlier.

19 That is, I could have done all the

20 adjustments by viewing, and still gotten, for example,

21 a program category with a very large share of viewing

22 hours showing up with a very small share of royalties.

23 There's no guarantee that having done it

24 by, having done the quality adjustments by viewing,

25 that, in fact, I was foreordained to end up with the

1 weights simply representing the viewing hours.

2 CROSS EXAMINATION (resumed)

3 BY MR. HESTER:

4 Q Well, now you've put your answer in terms

5 of a guarantee, or a foreordained result, or an

6 inevitable result. I take it you would agree with me

7 it's highly likely you would get similar results, even

8 if it's not foreordained?

9 A No, I don't believe that's right.

10 Q Okay. Well, let me go back to the

11 question I had asked you, about whether this was a

12 weighing within or across program categories. Could

13 you turn to page 22 of your testimony?

14 A Yes, I see it.

15 Q The last sentence of the first full

16 paragraph on that page refers to an analysis

17 accounting for "quality differences across programming

18 categories, within a distant signal is conceptually

19 superior." Do you see that?

20 A I do.

21 Q And there you're referring to this viewing

22 hour adjustment as an adjustment across programming

23 categories?

24 A Yes, I think that's either, at best, an

25 artful, or incorrect.

1 Q Okay. So, you would disagree with your

2 written testimony, the way you categorized the point?

3 A Well, I think a better way to describe it,

4 having thought about the way to present it, is it

5 makes more sense to think of it as adjustments across,

6 within categories, than across them.

7 Q Okay. Now, let me ask you, conceptually,

8 you've spoken a number of times today, of course, of

9 value, and your effort to measure value here. I take

10 it what you're trying to do is measure the value of

11 different kinds of programming, to a cable operator?

12 A That is correct.

13 Q And you're trying to look at this question

14 of valuation, from the perspective of cable operators?

15 A Correct.

16 Q I take it you're not trying to look at

17 this question of valuation from the perspective of

18 advertisers, who might buy different kinds of

19 programming time?

20 A That is correct.

21 Q And so would you agree that the principal

22 interest of a cable operator in different kinds of

23 programming is in terms of how that programming will

24 assist in retaining or attracting subscribers?

25 A Principally. But there could, as well as

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1 the written report indicates, there could be some
2 effect on advertising revenues as well. And
3 conceivably, some effect on revenues from other, from,
4 the fact that newly-attracted subscribers may, in
5 fact, buy other services.
6 Q And both of those phenomena would flow
7 from retaining and attracting subscribers?
8 A Correct.
9 Q So, at bottom, the cable operator has this
10 business objective of attracting and retaining
11 subscribers, and that's what you're trying to measure,
12 in terms of value, correct?
13 A You know, in order to both get increased
14 basic subscriber revenues, possible revenues from
15 premium services, and possible additional revenues
16 from advertising.
17 Q And I take it, from what you've said
18 today, that you agree that you couldn't simply look at
19 total viewing hours to determine what is most valuable
20 to a cable operator, in terms of attracting and
21 retaining subscribers?
22 A Are you distinguishing between total hours
23 and viewer-weighted hours?
24 Q Yes. I'm talking about, in other words,
25 could you simply look at total viewing hours, and

1 figure out what programming is most valuable to a
2 cable operator, in terms of attracting and retaining
3 subscribers?
4 A I'm sorry. I still don't understand the
5 question.
6 Q Could you simply look at total viewing
7 hours of programming on a distant signal and, from
8 that fact alone, figure out which programming is of
9 most value to the cable operator, in terms of
10 attracting and retaining subscribers?
11 A You could. I think a superior approach is
12 to weight by viewing hours because, otherwise -- by
13 viewing.
14 And the reason is, it gets back to this
15 problem of in category, within program category
16 homogeneity. And so the purpose of the adjustment by
17 viewing is designed to overcome that.
18 Q Now, I was asking something slightly
19 different. I may not have said it right. Why
20 couldn't you just add up the total number of viewing
21 hours, for different programming, without doing any
22 regression analysis?
23 Why couldn't you just add up the total
24 number of viewing hours, for different programming, on
25 a distant signal, and, from that sum, figure out which

1 programming is of greatest value to the cable
2 operator?
3 A That would assume they were just valued
4 based on viewing.
5 Q And that's not correct, in your view?
6 A Well, it seems to me that you ought to ask
7 the additional question, whether or not viewing is a
8 good measure of value, across program categories. And
9 that is, at essence, the reason for the analysis.
10 Q And the premise of your study, I take it,
11 is that you can't simply look at viewing hours alone,
12 and figure out what it is a cable operator values
13 most, in terms of attracting and retaining
14 subscribers?
15 A You may not be able to. You should ask
16 the separate question, as to whether, in fact,
17 programs that have, that a category that has --
18 whether two categories that have the same amount of
19 viewing hours are equally valued, is a question that
20 one could ask. And that's the sort of question I try
21 to address here.
22 Q And I take it you would agree that there
23 could well be a program category that had a lesser
24 number of total viewing hours, but could be quite
25 useful to a cable operator, in terms of attracting

1 subscribers?
2 A In principle, that's correct, and that's
3 exactly why I did the kind of analysis I did.
4 Q And has any cable operator ever asked you
5 to prepare a study like this, where you undertook to
6 analyze the effects of changes in percentage viewing
7 hours, and compare that to changes in percentage
8 royalties?
9 A No.
10 Q Are you aware of any cable operator who's
11 ever done this?
12 A Well, I'm not sure why they would want to
13 do it, but I'm not aware of any, no.
14 Q Have you ever seen a study like this ever
15 done before anywhere?
16 A It depends on what you mean by "like
17 this."
18 Q Well, a study that undertook to analyze
19 the value of different programming on distant signals
20 by looking at these percentage increases in viewing
21 hours, regressed against royalty payments.
22 A No. I think this study is unique.
23 Q Okay.
24 A Or hopefully the first of its kind.
25 Q You may start a business, huh? I take it

you're generally aware that cable operators, in the normal course of their business, do, from time to time, rely on surveys of their subscribers and other techniques to try to figure out what their subscribers want in programming?

A Yes.

Q And I believe, from what you had said before, that you would also agree that this technique you've applied, of weighting by viewing hours, I believe you've always put quality in quotes, correct?

A That's correct.

Q And I believe what, that you would agree that you can't simply rely on this weighting by viewing hours to pick up particular levels of intensity, or high levels of interest in particular programming, correct?

A Within a category, or between categories?

Q Either one.

A Well, I think, for the purpose of the within category adjustments, that's a reasonable, perhaps the best thing that one could do.

Q But it's not a perfect measure of intensity, is it?

A No. But remember, the purpose, the principal purposes of this exercise is to try to get

at the relative value of programming in different categories. And a way to do that is by the statistical analysis.

Q But you couldn't, so you couldn't look at the weighing by viewing hours to figure out the intensity of interest between program categories?

A That's right. You'd want to do a separate study, that's correct. Well, just to back up, the reason for the study that I did.

Q Now, would you agree with me that a cable operator bringing in a distant signal doesn't necessarily care about maximizing the viewing hours for a particular program?

A He cares about maximizing the difference between the additional revenues generated by the signal, carrying the signal, and the additional cost that he incurs.

Q And, ultimately, that devolves to the proposition that he cares most about attracting and retaining subscribers, as we already talked about. That's his principal interest.

A In general terms, he's interested in maximizing his profits. To the extent that having more subscribers does that, that's fine.

The reason I'm sort of object or quibble

with that is that he obviously can have more subscribers, if he lowered his fee a lot. He cares about how much his subscribers pay, as well as how many subscribers he has.

Q But he doesn't care, in terms of either of these objectives we're talking about, he doesn't care whether his distant signal that he brings in actually maximizes viewing hours to a particular program. That's not the way he would gauge the success of that signal.

A No. He gauges it by the success that he has in serving his own interests, in terms of his own revenues.

Q Okay. Now let me ask you just a little bit, conceptually, about what drives the results of your study.

I take it, as an econometrician, on of the things you try to do is think in a common sense way about what would explain the types of numbers that you're getting. Correct? You try to think about what movements in the underlying data would lead to the results you see?

A Correct.

Q Now, over on the left-hand side of the equation that you have specified is a variable that

reflects a percentage change in royalties, right? In royalty payments?

A Well, change divided by the previous number. If you wanted a percentage change, you would put a percentage in front of that.

Q A percentage change in royalty. And then you've obviously prepared this regression analysis with a number of different variables. One for movies and syndicated programming, which I'll just designate with an "M."

Another for sports. Another for local. And another for devotional. And, as to each, you've come up with an estimated co-efficient, correct?

A Except that those variables, of course, they're also in percentage terms.

Q Right, right.

A Percentage change terms.

Q Right. The estimates that you come up with, you understand those as an estimate of a percentage change, that's the way you?

A Well, the variables are percentage changes, and I understand the co-efficients I estimate as estimates of the shares.

Q Okay. Now, is it fair, in general terms, therefore, to conclude that, if you had a category,

and let's just pick on movies for a moment, movies and syndicated series.

If you had data that showed that, consistently, the movies and syndicated series had a high number, or a large increase, up tick, in percentage terms, in viewing hours.

When there was an increase in royalties, is that something that would cause you to see a relatively high co-efficient for movies and syndicated series?

A With the qualification, of course, that it would depend on what, everything else that was going on at the same time.

Q Right.

A So that it might be, for example, that there is an increase there, but an increase in other categories as well. In which case, you'd be interested in the relative sizes of the increases.

Q But, in terms of thinking about what drives these results, is it fair to say that the driver of the results, and the thing that you're ultimately measuring is the correlation between percentage increases in viewing hours for these particular categories, and the percentage increases in the overall royalty?

A With the caveat that I'm interested in the change, the effect of the change. For example, in movie programming, on royalties holding constant the effect of all the other variables.

Q Okay.

A But the way the analysis is conducted, each of those co-efficients is thought of as an increase, effectively, increase in the programming in that category, holding constant the number of programs in all the other categories.

Q Okay. But, as we've already discussed, for the cable operator that chooses to bring in a distant signal, he doesn't necessarily care whether he gets the biggest percentage increase in viewing hours.

To movies, or sports, or local programming, or devotionals, when he brings in that signal. That's not the way he thinks about the benefit to him of this signal, is it?

A That's right. It could turn out, to him, that a category may have a big increase in viewing hours, but it's one that doesn't do much in terms of attracting subscribers.

In which case it would show up, in my analysis, as having a small co-efficient and a small

share.

That's just the point I made, that the respective shares in viewing don't necessarily tell you anything about shares of royalty that I'm going to estimate.

Q Well, it would show up. If you had consistent results that showed a high correlation between increases in royalties, and increases in viewing hours for movies, you would show a relatively high co-efficient for movies in your estimate, right?

A It would depend on what the other variables are doing at the same time.

Q Right.

A But it's difficult to talk about the effect of one variable at a time, when this is a multiple regression analysis.

Q Okay. But putting that aside. Sort of simplifying for the moment. If you just saw in the data a consistent pattern of very large increases in the percentage viewing hours for movies.

And, over on the left-hand side, you saw a consistent increases in the royalties at the same time. That's the kind of reason that you're going, that's the kind of reason, the data that you're going to see a high co-efficient, relatively, for movies.

A Yes, but with the qualification that, when you set those things aside, they're exactly the kinds of things I want to worry about.

Q Okay. But, and I take it you, as we've already discussed, that's not exactly the same thing as what the cable operator's trying to do when he brings in the distant signal.

Because the cable operator, when he brings in the distant signal, isn't necessarily worried about maximizing the viewing hours to that, to movies, as an example.

A No. But that's exactly the point. The point is there could be a category with a large -- if, in fact, let's suppose that there's a correlation. It could still be the case, that there's a substantial increase in movie viewing.

Excuse me, in movie, in the movie category. But, nonetheless, a very small weight, because that doesn't contribute very much to what it is the operator's trying to maximize.

And that's the reason, I think, that I have to insist that you have to worry about the effect of all of the variables together.

Q Well, you said it would be a very small weight. But the royalty number, the change in

royalties, that's your dependent variable, isn't going to be different, depending on which one of these categories experiences a greater increase in viewing hours.

A No, but the, again, the analysis is intended to estimate the appropriate weights to apply to those. That's what it does.

Q Okay. Now, you had talked before, I believe in response to a question from Judge Wertheim, about -- I'm sorry, Judge Farmakides, actually, about the reasons why you think actual behavior should be studied in lieu of surveys, correct?

A That's generally correct.

Q And you sort of recited what I might call a shibboleth, that, if an economist had actual behavior on the one hand, and a survey on the other, and both of them were measuring something comparable, you'd take the actual behavior, right?

A I wouldn't call it a shibboleth. I would just call it good economics.

Q Okay. But I take it that the observation you made really has two predicates. The first is can you measure the behavior at all, correct? You have to be able to measure the behavior, to make the point you are making, that a study of actual behavior is better

than a survey?

A I guess that's correct.

Q And the second thing is that the behavior you're measuring, the behavior you're identifying and measuring, has to correspond to what you're ultimately trying to come out with? Here, value to the cable operator. Correct?

A That's correct.

Q And, if the behavior that you're measuring isn't, at the end of the day, a measure of the value to the cable operator. Even though you're measuring actual behavior, you may not be coming out with something that's meaningful, in terms of predicting value.

A But I would contend that this is measuring value.

Q No, I anticipated you might. But, if you take as a premise. Or, my question is that, if you had a study, where the ultimate conclusion was it's not measuring value to the cable operator, even though you're measuring actual behavior, it may not be telling you anything about value, correct?

A On that assumption, that's correct.

Q Okay. Let me ask you a little bit about your sample in this case. Do you know roughly how

many observations you began with, how many potential drops and adds you had? Is the number 1,200 about right?

A I'm not certain. I think it might be.

Q Okay, let's -- let's just -- let's just note 1,200 -- 1,200 to begin. And then I take it the first stage, which you described starting at page 19 in your testimony, is that you weeded that sample down to 423.

And the reference I can give you is page 19 on that.

A I have it, yes.

(Pause.)

MR. HESTER: Okay, is it --

CHAIRPERSON JIGANTI: How --

MR. HESTER: I think I may have 20 more minutes or so.

CHAIRPERSON JIGANTI: I don't know what your pleasure is, Doctor Besen. Mr. Lane, what's your -- would you have questions on redirect?

MR. LANE: Just a few.

CHAIRPERSON JIGANTI: And Mr. Cosentino, would you have any questions?

MR. COSENTINO: I'm not thinking now I will have any.

CHAIRPERSON JIGANTI: Okay. I believe that accounts for everybody. And you're going to be about 20 minutes? Do you want to continue on with it so Dr. Besen doesn't have to come back again?

MR. HESTER: That would certainly be my vote, Your Honor, as long as it's okay by the Panel.

CHAIRPERSON JIGANTI: Do the rest of -- any problems with that?

(No audible response.)

CHAIRPERSON JIGANTI: I'm going to -- in a few minutes, I'm going to have to step out, but continue the hearing anyway. I'll have the transcript. I'll be back, but --

BY MR. HESTER:

Q You then -- you then further weeded the sample down to 208 observations and that was your final group that you worked with, correct?

A With the -- with the caveats that, in fact, there are -- there is a separate analysis that -- that looked at much larger number of observations: the so-called no rate or receipts filter, which is as many as 400 -- they actually used 400 observations.

Q Okay, but --

A There is an analysis with a much larger number as well.

Q But your preferred analysis was 208.

A I used 208 observations, that's correct.

Q And you're covering five years of carriage here, correct?

A That's correct.

Q And I take it each of the observations is for a half year?

A It's a period -- a period change.

Q Okay. So that comes out to about ten -- in fact, exactly ten half-year blocks?

A Correct.

Q And about 20 observations per half-year and 40 observations per year.

A That sounds correct.

Q Now, let me just talk about the difference between that and the total carriage of distant signals. You know roughly that there's about 2,000 Form 3 cable systems?

Does that number sound about right to you?

A I'm not certain.

Q Would you take me at my word for right now?

A I will.

Q Okay. And do you know roughly that cable operators carry about three and a half distant signals

on average?

A That's the number we have here.

Q Okay. And so that would come out to about 7,000 distant signals being carried by Form 3 systems each half here -- 2,000 -- 2,000 Form 3 systems -- three times 3.5 distant signals.

A Seven thousand instances, yes.

Q Yes. So obviously, over the five years, we're talking about 70,000 -- 70,000 instances of carriage if you look at each half-year block separately.

A Correct.

Q Okay. So what you come out with is -- is a quite small percentage of the total number of occasions when cable systems were carrying distant signals?

A It's all the instances which they added or deleted a distant signal that met certain other criteria.

Q Well, all of the instances where you had the viewing data.

A First of all.

Q Yes, right.

A The data and padded by the various filters.

Q And I believe you had said before that the sample that you worked with, you agreed, was not a random sample?

A It was not selected randomly. I tried to find every observation that met the criteria. I was looking for a universe of all changes.

Q Well, but when you say "met the criteria," one of your criteria is you didn't have data on the -- on all the observations.

A That's correct.

Q So you were -- you didn't have the materials to conduct a truly random sample?

A That's correct.

Q And as a matter of statistics, I take it you would agree that if you have a study that's not drawn on a random sample, just as a matter of statistics, you can't project that study to the universe because it's not drawn randomly?

A Well again, this was intended to be the entire universe. I've never thought this as a sample of all instances of additions or deletions. It's every instance of addition or deletion.

Q Well, but I think you said before in your testimony that you were really trying to do something more than just look at the additions and deletions.

You -- your thesis that you articulated this morning was that these estimates of the coefficients would apply to all of the decisions by cable operators to carry distant signals.

A That's correct. It's --

Q And that would include times when they just carried the distant signal through the whole period?

A I'm just making a point about the fact that this is -- this is -- that this is not intended to be a sample. I would have taken every instance of addition or deletion or swap that I could have if I had the appropriate data.

Q Well, I understand you would have used more if you had more. But what you ended up with was 208.

A That's correct.

Q Okay. And -- and I believe in your testimony this morning, you made the point that in your judgement, the coefficients you've estimated would apply to, for instance, a cable system that carried the same distant signals through the whole period without change?

A It, in fact, is intended to apply to all the signals -- all the programs on the -- for example,

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1 even in the case of the operators that are adding
2 distant signals, it applies --
3 Q Right.
4 A -- to all of the programs, whether they
5 had programs on the additional signals or on the
6 signals -- or on the signals that had previously been
7 carried and are still being carried.
8 Q Right. And so you really -- you're
9 talking -- as we discussed before, this is about
10 70,000 overall instances of distant signal carriage
11 over the five years.
12 A That's correct.
13 Q And so you -- wouldn't you agree you're
14 projecting your results from some smaller sample to --
15 to a broader universe?
16 A There is a -- I certainly do not have
17 observations on every cable system.
18 Q Right. And as a matter of -- of standard
19 statistical technique, it's recognized, isn't it, that
20 if you have a study that's not drawn on a random
21 sample, you cannot properly project that to a
22 universe?
23 A Well, the --
24 Q Can you just answer that yes or no first
25 and then explain?

1 A I guess the answer is yes. But in fact,
2 what I've tried -- what this thing is intended to do
3 is estimate the -- from -- using these observations,
4 estimate the shares that are appropriate for all --
5 for all purposes, for all programs on all those
6 systems.
7 Q Okay. Now I believe that you've said
8 several times that a premise of your study is that the
9 value of the programming that would be carried on the
10 distant signals would be reflected in the royalty
11 payments made by the cable operators?
12 A Correct.
13 Q Correct? And the premise is that the
14 cable operator is going to be paying the marginal
15 value for -- for the additional distant signal. Is
16 that right?
17 A Well, that is the additional cost that he
18 has to pay. And therefore, the value of the signal
19 ought to -- the value of the signal and the value of
20 the programming on that signal ought to be at least as
21 great as the cost, the additional cost, the operator
22 incurs when he adds the signal.
23 Q Okay. Let me hand you what I will mark as
24 PTV Exhibit No. 16, which is my own handiwork.
25 (Whereupon, the above-

1 identified document was marked
2 as Public Broadcasting
3 Claimants Exhibit No. 16-X for
4 identification.)
5 ARBITRATOR WERTHEIM: While we're waiting
6 a moment, can I ask you a question related to your
7 marginal values? I know there's been a lot of prior
8 testimony in '90 over this, but we haven't had it here
9 in this proceeding.
10 And my general understanding of marginal
11 value is the value of the last item added that's worth
12 being added at all.
13 THE WITNESS: That's correct.
14 ARBITRATOR WERTHEIM: So every category of
15 programming has a marginal value.
16 THE WITNESS: That's correct. By
17 "marginal value," I don't mean to suggest the value is
18 marginal in the sort of usual sense.
19 ARBITRATOR WERTHEIM: Well, but they all
20 have the point where it's zero to add one more.
21 THE WITNESS: Yes, except they'll -- in
22 fact, they will -- they will stop before that point
23 because it costs something to add the additional
24 signal.
25 So they won't actually get to the point

1 where the marginal value is zero.
2 ARBITRATOR WERTHEIM: Well, let's say the
3 net addition is zero.
4 THE WITNESS: Well yes, it will no longer
5 be profitable to add another signal because the
6 additional --
7 ARBITRATOR WERTHEIM: But such a point
8 exists for every category of programming?
9 THE WITNESS: Absolutely.
10 ARBITRATOR WERTHEIM: And so in what
11 respect are the devotional different from others?
12 THE WITNESS: I didn't say they were
13 different from others.
14 ARBITRATOR WERTHEIM: Well, you said their
15 marginal value is zero.
16 THE WITNESS: No, I was trying to
17 understand Mr. Gottfried's hypothetical where he --
18 where he was -- I thought he was telling me that the -
19 - maybe -- maybe I misunderstood him, but I thought he
20 was telling me that in this particular case, not up
21 here any longer, that The 700 Club was the reason that
22 the operator carried the distant signal.
23 That was worth -- that was what it was
24 worth to its -- its subscribers wanted it.
25 And I thought he was telling me that they

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1 were interested in carrying additional five hours of
2 distant signal -- of devotional programming.
3 And I asked him, is that because he
4 thought the marginal value of those were zero? And
5 I never did get a good answer because --
6 ARBITRATOR WERTHEIM: No, I don't mean to
7 be diverting Mr. Hester here. But why, in that
8 example, wasn't the marginal value five?
9 THE WITNESS: Because in his example, as
10 I understood it, he was saying the person would be --
11 might be observed carrying a second distant signal
12 which had additional devotional programming.
13 And I thought what he was telling me was,
14 well, that really had no additional value. That had
15 no value to his operator.
16 ARBITRATOR WERTHEIM: That wasn't his
17 question at all, but --
18 THE WITNESS: That was my understanding of
19 it.
20 ARBITRATOR WERTHEIM: Go ahead, Mr.
21 Hester.
22 BY MR. HESTER:
23 Q Okay. Dr. Besen, we've marked PTV Exhibit
24 16-X. And this is my rough effort to give some
25 charts. I wasn't as brave as Mr. Stewart to try and

1 draw mine on the spot.
2 And let me ask you to direct your
3 attention to Figure 1 first. And if you think of each
4 of these different boxes, which are labelled A through
5 I as a separate distant signal, and you see the
6 numbers that are shown there which are meant to
7 reflect the value that the cable operator would place
8 on the different distant signals, obviously --
9 A But it's -- you mean -- you mean the
10 marginal values?
11 Q Well, I'm saying -- no, I'm saying this is
12 the value. If you asked the cable operator how much -
13 - how much value is there in bringing in signal A,
14 which is his first --
15 A Correct.
16 Q -- signal, you would agree that signal A
17 might well have more value to him than signal I,
18 correct?
19 A But just to be clear, when you put the
20 number 18 for signal B, you're saying that if I'm
21 already carrying signal A, it's worth 18 additional to
22 carry signal B.
23 Q Exactly.
24 A That's what I mean by the marginal value
25 of signal B.

1 Q Exactly.
2 A We're on the same -- we're in the same
3 place.
4 Q Okay, good. And the dotted line across
5 the chart there is meant to reflect the cost, the
6 royalty payment, that the cable operator has to pay
7 for bringing in the distant signals, okay?
8 A I see that.
9 Q Now would you agree with me that this is
10 a rough rendition of the phenomena you're relying on
11 in your testimony that there will be some diminishing
12 value, diminishing marginal value, to the cable
13 operator as he adds more distant signals?
14 And your premise is that he'll keep adding
15 those distant signals until he gets right up against
16 the additional cost of bringing in the distant
17 signals?
18 A That's correct.
19 Q And so under your analysis, I take it you
20 would conclude that the operator would carry signals
21 A through G and would then stop, correct?
22 A In Figure 1, that's correct.
23 Q In Figure 1. And we could look at --
24 Figure 2 is really simplified. I thought maybe it
25 would -- if you wanted to work with fewer examples --

1 with fewer different distant signals, I would have a
2 back-up.
3 (Laughter.)
4 THE WITNESS: I think we can work with
5 Figure 1.
6 BY MR. HESTER:
7 Q Okay. Now, you're aware, I take it, that
8 cable operators in many, many systems across the
9 country face capacity constraints?
10 A That's correct.
11 Q And you're also aware that when a cable
12 operator is bringing in distant signals, it's not
13 simply a question of whether he has to incur
14 additional royalty payments. It's also a question of
15 what he's giving up to bring in that distant signal in
16 terms of other programming?
17 A That could be the case.
18 Q So if a cable operator confronts that
19 situation -- let me just take a hypothetical example.
20 You could have a cable operator that brings in distant
21 signals A, B and C, and then stops, correct?
22 Because he's got other alternatives that
23 are more valuable to him than those incremental
24 distant signals, even though those distant signals are
25 above his royalty payment?

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A That could be.

Q And that's a phenomenon that you could well see where cable operators had capacity constraints, correct?

A Correct.

Q And so in that circumstance, you could well have a situation where the marginal value to the Copyright Office of carrying an additional distant signal is much higher than the incremental cost.

A Well let's -- actually, let's think about that for a second. The observations that we have are observations where a cable operator chooses to like, for example, add a distant signal.

Q Right.

A He's willing to pay a certain amount for it. In deciding how much he's going to pay for it, one of the costs in your hypothetical that he would take into account was the cost of having to delete some other program, some other service.

And that would bee taken into account into his valuation of the distant signal.

Q It would be taken into account in his valuation of the distant signal, correct? He would think about that opportunity cost?

A Correct.

Q But it doesn't get taken int account in your equation, which is based on incremental royalty payments.

A No, because the -- because we know that if you add the distant signal and you find it worthwhile payment that amount, the additional distant signal must be worth that amount taking into account the other costs.

Q Right. But the additional signal could be worth much more to him than the amount that you've measured as your dependent variable, correct?

A The value of the additional signal that takes into account all of the costs that he has to incur in order to carry the distant signal.

Q Well, your dependent variable is a royalty figure.

A Remember, that dependent variable is standing in for a value number.

Q Which you don't have?

A No, I use that as a proxy for it.

Q Okay. All right, so -- I mean, that's one thing that's useful to get out here. You don't have the true value number.

A Well, the royalty number is designed --

Q I think that's a yes or no first.

A I'm sorry.

Q You don't have the true value number?

A Correct, I do not have the true value number. That's why I use a royalty number --

Q Okay.

A -- as a reflection of that.

Q You've taken royalty as a proxy for value.

A Correct.

Q But you agree with me that you could well have a case where the value is much higher than the royalty?

A I'm not sure exactly the point you're making. I think it would depend on essentially how continuous this function is.

Q By "this function," you're referring PTV Exhibit 16-X?

A Yes.

Q Okay.

A But if these -- again, if these numbers: 20, 18, 15 and 12 mean what they're supposed to mean, which is the marginal value, the true marginal value, taking into account the opportunity costs, then in fact, you'd go all the way down to 6.

Q Well, but the -- 6 is the royalty payment he has to make, correct, in Figure 1?

A In your Figure 1, correct.

Q And the point is that the opportunity costs and the other costs he incurs in foregoing other kinds of programming may mean that he never gets close to that royalty payment in terms of his valuation of that additional signal?

A No, I don't think that's right because I think you have to go back and think of how you're defining your values. The values ought to reflect those opportunity costs.

Q Okay, the --

A Then you would get down to 6, except for possible discontinuity here.

Q But you're not measuring that concept of value. The concept of value you've just described in referring to Figure 1 is not measured in your formula.

A No, that's not right because -- because what would happen in this example would be you go all the way out to 6. And in fact, the 7, or whatever it is here, would, in fact, represent the value of the chief signal where that value reflects, as well, the opportunity costs of the things that have to be displaced.

Q No, I'm really -- no, I'm using this is a slightly different way. I'm using each of these

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1 additional distant signals as the incremental value to
2 him of adding that programming in terms of attracting
3 and retaining subscribers, okay?
4 A That's the incremental value. But
5 remember, if he has to displace something else, that
6 is taken into account in this.
7 Q No, but -- but in your analysis, you rely
8 on royalty payments as a proxy of value, correct?
9 A I'm not -- I'm not arguing about that.
10 What I'm arguing about is the concept of what is
11 included in your marginal values.
12 Q But you are relying on royalty payments as
13 a proxy for value.
14 A That's correct.
15 Q Okay. And there could well be a situation
16 where the cable operator puts a much higher value on
17 that distant signal than the royalty payment would
18 reflect.
19 A Well --
20 Q Standing -- the royalty payment, standing
21 alone, will not reflect the value to the cable
22 operator.
23 A Only if -- to the extent that, as in your
24 example, sow, the 7 exceeds 6 and the 5 is less than
25 6. So the chief signal is worth more than it costs,

1 so you add it. And the Hth signal is worth less than
2 it costs, so you don't add it. So it's the difference
3 between 7 and 6.
4 Q Well, but - -but there well may occasions
5 where -- and let's just take an example. Let's focus
6 on a cable operator that carries signals A, B and C.
7 So he's gotten down to 15 in terms of the marginal
8 value, okay?
9 But there's something else that's worth 18
10 to him in terms of marginal value that he can take in
11 instead of an additional distant signal.
12 A Because of channel capacity constraints.
13 Q Yes.
14 A Then, in fact, the 12 in incorrectly
15 specified. The marginal value of signal D is not 12.
16 Q Why not?
17 A Because it doesn't take into account --
18 because it's the incremental value to the system of
19 adding the signal.
20 And the fact that he has to displace
21 somebody else, it wouldn't generate that much
22 additional revenue.
23 Q The additional distant signal could
24 generate that much revenue, but there could be another
25 kind of channel that would generate additional revenue

1 for him.
2 A Remember what we're asking about D is how
3 much additional net revenue it generates. If it
4 somehow -- somehow itself generates 12, but you have
5 to drop something else that generates 18, then, in
6 fact, it's marginal value isn't 12, it's -6 and you
7 wouldn't add it.
8 Q Let me go back -- let me go back to a
9 first principle. I take it you would agree that a
10 cable operator does not necessarily have the
11 capability of continuing to add more and more distant
12 signals until he gets out to the royalty payment as
13 his equilibrium point?
14 A The only reason that wouldn't occur
15 precisely is because of these come in lumps.
16 Q Well, wouldn't it also occur because the
17 royalty payments are a fixed amount that are not
18 necessarily the same as marginal value?
19 A If these did not come in lumps, then, in
20 fact, the marginal signal carried, or in fact all
21 signals carried, would, in fact, have a value just
22 equal to the royalty payment.
23 Q All right.
24 ARBITRATOR WERTHEIM: What do you mean by
25 "come in lumps?"

1 THE WITNESS: This is drawn as a series of
2 discreet bars. Suppose instead that the chart had
3 shown signals being continuous, just the downward
4 sloping curve. Then we would have ended up with the
5 marginal signal worth six dollars, and there would
6 have been this gap between seven and six that appears
7 and this chart wouldn't exist.
8 That's an artifact of the fact that these
9 come in discreet units rather than continuously. If
10 you drew -- this is just a down slope. But the smooth
11 version of this would, in fact, intersect six, and
12 that's where you would end up.
13 The reason -- the reason that doesn't
14 happen here presumably is you can't carry 8.3 signals.
15 BY MR. HESTER:
16 Q Let me hand you what we've marked as PTV
17 Exhibit 17-X.
18 A It's been a long time since I've read
19 this.
20 (Whereupon, the above-
21 identified document was marked
22 as Public Broadcasting
23 Claimants Exhibit No. 17-X for
24 identification.)
25 ARBITRATOR WERTHEIM: This is 6-X?

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MR. HESTER: 17-X.

ARBITRATOR WERTHEIM: Oh 17, okay.

BY MR. HESTER:

Q Now Dr. Besen, we've marked Exhibit 17-X. I take it this is an article of which you were the co-author?

A That's correct.

Q And could you simply state for the record what the article is?

A It's an article entitled "Copyright Liability for Cable Television: Compulsory Licensing of the Coase Theorem." My co-authors are Willard G. Manning, Jr. and Bridger M. Mitchell.

This appeared in The Journal of Law and Economics I believe in 1978.

Q And I wanted to direct your attention -- well, let me -- before I do that, let me ask you generally, you were discussing in this article, I take it, the revisions to the copyright law that had been made in 1976 to provide for a cable compulsory license. Is that right?

A That's correct.

Q And let me ask you to turn to page 88. And I wanted to direct your attention to the first paragraph on page 88. And here, you're discussing the

impact of compulsory licensing. Is that right?

A Correct.

Q And you refer in the first sentence to "the general revision." Am I right that the reference to "the general revision" was to the revision made in the 1976 Act to provide for a cable compulsory license?

A That's correct.

Q Okay. And then you say that -- in the sentence: "Fees fixed by law need bear no relationship to the prices that the marketplace would produce if transactions could be negotiated costlessly." Do you see that?

A I see that.

Q And is that still a correct statement?

A Yes.

Q And then you go on to say in the next sentence that "The schedule in the general revision" -- and I take it that's a reference to the schedule for different gradations of distant signal equivalence and the whole formula for computing royalty payments. Is that --

A That's correct.

Q "The schedule is not based on an estimate of the incremental valuation that viewers and

advertisers place on imported programming."

A That's correct.

Q Is that also correct?

A Yes.

Q And you still agree with that?

A Yes.

Q And the -- at the beginning of the next paragraph, you say that "The schedule," again referring there to compulsory licensing -- is that right -- and the royalties that have to be paid under the compulsory license. Is that right?

A I'm sorry, what sentence are you referring to ?

Q The first sentence of the second paragraph.

A That's correct.

Q And you say that "The schedule does not reflect the marginal value of imported stations to advertisers and cable viewers." Is that right?

A That's what it says, yes.

Q And you still agree with that?

A Yes. Although I must admit that I haven't gone back to look at the -- at that analysis in some years.

Q Now --

ARBITRATOR WERTHEIM: Dr. Besen, I remember trying to read an article not too long ago about the Coase Theorem, and I gave up. It had too many equations.

Is there any reason why the Tribunal has to -- about the Coase Theorem?

THE WITNESS: For this -- well, in the first place, there are no --

ARBITRATOR WERTHEIM: No, I mean the Panel.

THE WITNESS: To understand this paper?

ARBITRATOR WERTHEIM: Or for anything that's relevant to this that you're aware of?

THE WITNESS: I don't really know where the questions are going.

ARBITRATOR WERTHEIM: I guess I'm trying to decide whether I still need to fight my way through the equations or whether I should give up like Mr. Gottfried.

(Laughter.)

ARBITRATOR WERTHEIM: Go ahead.

BY MR. HESTER:

Q Now, let me mark as PTV Exhibit 18-X yet another one of my creations.

A Are we done with this?

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Q Yes, for now.

(Whereupon, the above-identified document was marked as Public Broadcasting Claimants Exhibit No. 18-X for identification.).

BY MR. HESTER:

Q Dr. Besen, we've marked as PTV Exhibit 18-X two more figures. And I wanted to follow up on this observation that you had made about what you refer sometimes to as an integer problem, that the -- obviously a cable operator has to bring in distant signals in discreet chunks, right?

A Correct.

Q And so the cable operator may well have a value, have a marginal value as we've been discussing, for bringing in one signal. And then the marginal value goes down substantially for bringing in the next signal, correct?

A Correct.

Q And you could well have a situation where because of that integer problem, the cable operator's value is actually straddling the incremental royalty payments he has to make, correct?

A In principle, you could have that. I

don't think the problem is as exaggerated as your diagram suggests. But in principle, it could happen.

Q Well, in looking -- looking at Figure 3 versus Figure 4, this is simply meant to illustrate that there could well be situations, couldn't there, where there are substantial differences in the impact of this integer problem?

A There could. I don't believe it's very likely.

Q I mean, you haven't done any study of that, have you?

A No.

Q And what Figure 3 reflects, when the cable operator brings in signal B, he -- his marginal value is quite a bit above his royalty payments and then drops down, correct?

A Correct.

Q Whereas in Figure 4, we're illustrating an operator who has a marginal value much closer to his royalty payment. Is that right?

A That appears to be the case.

Q And there's -- you don't have a basis for knowing, do you, whether the -- whether that sort of integer problem occurs in the dataset that you've got?

A I don't think it's important. And I think

it's also important to note here that with respect to the issue of the relative contribution of the various components of the programs in the distant signal, it's not obvious that even if this were a problem, that it would, in any way, affect the relative shares that I estimate.

Q But you -- you haven't studied it, so you can't really opine?

A I haven't studied whether there's a significant integer problem, but I don't believe there is.

Q Okay.

A I can opine.

Q Okay. I guess that's fair. Now if you had a -- I believe in your testimony you have said that when a cable operator drops a distant signal, your premise is that the value of that distant signal is below his incremental royalty payments. Is that right?

A That is equivalent in your -- equivalent on your Figure 1. If he happened to carry H, then he would decide well, if he didn't carry H, he would save six dollars and five dollars of incremental revenues.

And therefore, he would drop H if he were carrying it.

Q Could -- would you agree with me that there could well be a case where the cable operator values that distant signal above his incremental royalty payments, but he still drops it because he values something else more?

A I think it's the same answer I gave you before: not if -- not if the valuation is done correctly.

Q And for that purpose, in order for the valuation to be done correctly, you would have to take account of all the opportunity costs that go beyond simply looking at the royalty payments?

A No, the operator would take into account those other things in deciding whether the program -- whether the distant signal is worth carrying given the royalty payment.

Q Now, let me ask you about a hypothetical scenario in which -- we're going to follow up on something that Mr. Stewart did.

You have a cable operator that's carrying three distant signals for period one, all right? And he's paying a certain amount of royalties for those three distant signals, okay?

A Fine.

Q Are you with me so far? He recognizes

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that he confronts consumer dissatisfaction, dissatisfaction among his cable subscribers with signal C, all right? Are you with me so far?

A Yes.

Q And he decides to swap for signal C signal D. So in period two, he carries signals A, B and D, all right? Are you with me so far?

A I am.

Q In this situation, however, because he's carrying the same kinds of distant signals, his royalty payments actually stay just the same.

A Well, not necessarily. If he --

Q Well, let me give you a hypothetical and then --

A Well, the reason I am concerned is that you told me they're dissatisfied with C. So presumably, he did D need for a reason.

Q He did D for a reason, which was he knew he was going to lose subscribers unless he changed.

A Fine.

(Lights go out.)

MR. HESTER: All right? I guess that just about ends it.

(Laughter.)

CHAIRPERSON JIGANTI: Mr. Cosentino, the

switch is on the wall next to the door there, one of those two switches. But I don't think that's going to stay on. I think it goes off again.

(Pause.)

CHAIRPERSON JIGANTI: Thank you.

BY MR. HESTER:

Q In the case I'm hypothesizing, he recognizes that he's going to lose subscribers unless he changes from C to D, okay?

A All right.

Q And his royalty payments actually stay the same because he's still carrying three signals, as he was before, correct?

A Fine.

Q In that situation, I take it your dependent variable would show up as zero change in royalties, correct?

A Yes. I think more likely -- more likely would be the case that he had lost some subscribers because of C. And when he added D, he picked some up, and so there would be an increase in cost.

Q Well, but in the -- I'm using this as an illustration of a concept and --

A Well, but you're --

Q -- and --

A There's nothing wrong with the hypothetical. All I'm saying is that -- is that it's probably the case that he would already have lost some subscribers because of carrying C or having charged them less.

And therefore, when he added D, there would be an increase in value.

Q Now, but in this example, I'm -- I'm describing, you would show a zero change in royalty payments if you accept my example.

A In your example, there is a zero change in royalty payments.

Q And yet, D is quite a bit more valuable to him than C in the example I'm describing, correct?

A That's correct.

Q Because D helps him retain subscribers that he would otherwise lose.

A In your example, yes.

Q And the more -- the more general point I wanted to ask you about is something that you discuss on page eight of your testimony.

The -- the second full paragraph, the next to the last sentence, says "Some systems will choose, say, to add more 'expensive distant signals' with programs that generate greater additional revenues

than other systems that add 'less expensive' distant signals." Do you see that?

A I do.

Q Now, when -- when a system adds a distant signal, there's no difference in cost, is there? It's going to be the same cost whatever the distant signal is that it's adding, correct?

A The percentage royalty rate, incremental royalty rate is the same.

Q Right.

A But it depends on how much basic subscriber revenues go up as well. So that will -- if they change, the cost -- if you add -- if you add a signal, the effect of which is to permit you to get substantially higher basic revenues, then in fact, your royalty payments will go up by more than if you added a signal and didn't add much to the basic subscriber revenues.

Q So when you talk about expensive signals here, you're hypothesizing a signal that causes royalty payments to increase more than another signal because it has some impact on subscribers?

A Assuming they have the same -- assuming that we're comparing two systems with the same effect of percentage rate.

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Q Right, right. Would you agree with me that impact on subscribers -- and I take it, the premise of your question there is when the cable operator adds a more attractive distant signal, the expectation is that it's going to generate more subscribers, correct?

A Correct.

Q That effect --

A And he has to be willing to pay that much more for it.

Q Right. But he won't -- he won't pay that much more until the effect takes place of securing more subscribers --

A That's correct.

Q -- right? And would you agree with me that that effect from adding the distant signal that's more attractive doesn't necessarily occur all in the same six-month period as when he adds the signal?

A It might not.

Q That you could well see the effects in later periods as the cable operator increases subscribers, for instance?

A That's correct. I should add that we did conduct an analysis looking for lagged effects and couldn't find any.

Q Well, your -- to be a little more precise, your equation using lagged effects had no explanatory significance --

A Correct.

Q -- right?

A Correct.

Q That's not the same thing as saying you couldn't find any lagged effects. You couldn't come up with an equation that could -- that could measure it.

A If you measured it with lags, you wouldn't find any relationship.

Q Right. In the real world, sort of going -- going outside of econometrics for the moment, in the real world, I take it you would agree with me that it's quite plausible that the impact from changes in distant signals won't all be focused on the six months when the change takes place?

A It might not.

Q Well, isn't it -- it's -- it's quite likely, isn't it, that the impact occurs over time from changing the distant signal?

A Yes. I would expect most of the effects to occur early, but there could be effects later.

Q Well, and your -- your model doesn't take

account of any impacts that occur outside the six months when the change takes place in the distant signal.

A That's correct.

Q I take it your model treats distant signals that are carried at a 2.5 rate and distant signals that are carried at 3.75 rate equivalently with distant signals that are carried at the 1 DSE rate?

A All I care about is the number of dollars -- the dollar increase in the royalty payments.

Q Did you ever look --

A In percentage terms.

Q Right. Did you ever look at 3.75 signals, for instance, separately from -- from other signals?

A No, I didn't distinguish that. In fact, of course, that's another source, of course, of the difference between expensive and less expensive signals.

An expensive signal is one which you have to pay 3.75 for, and a less expensive signal is one that you pay at a lower rate.

That's another example of the difference between expensive/inexpensive signals.

Q But what -- in your testimony when you're

talking about adding expensive distant signals, is that really short-hand for a signal that is likely to generate additional subscribers?

A And/or causes the operator to incur a higher royalty rate than they incurred on another signal.

(Pause.)

BY MR. HESTER:

Q Actually I will say "Finally, let me ask you this." I take it your analysis, in terms of the percentage change in program categories, focuses only on viewing across the distant signals? In other words --

A I'm sorry, it's late in the day.

Q Yes.

A Try that one again.

Q I'm sorry. You have measured percentage changes in viewing hours for purposes of your independent variables by looking at viewing within the distant signals being carried on a system.

A Correct.

Q Right? So you could have -- and let me just -- let me just illustrate an example where you have a cable operator that has -- if you looked at its whole range of programming, both distant signals and

1 local programming, it has 90 percent of Category X is
2 in the local -- is on the local broadcast signals, and
3 only ten percent of Category X is on the distant
4 signal, okay?
5 Are you with me so far?
6 A I am.
7 Q You have another -- you have another
8 category, and I'll -- we'll call it Category Y, where
9 five percent of Y is on the local. And 90 percent of
10 Y is on the distant, okay?
11 A Yes.
12 Q Now in terms of your analysis, you're only
13 looking at the percentage changes in X and Y when you
14 look at the distant signals, right?
15 A That's correct.
16 Q Now, you could well have a cable operator
17 that sees some real advantage in bringing in Category
18 Y on the distant signal because he doesn't have very
19 much of Category Y on his locals, right?
20 A Conceivably.
21 Q And -- and conversely, the cable operator
22 might not see much value in bringing in Category X
23 because he's got a lot of Category X on his local,
24 correct?
25 A Correct.

1 Q But if you looked at percentage changes
2 just within the distant signals, you may not pick up
3 on the mix of programming that the cable operator has
4 across his total programming mix.
5 A No. Remember the reason -- remember that
6 in some sense, one of the fundamental premises of what
7 I've done, is I am effectively controlling for the
8 differences in those because the amount of local
9 programming in each category is assumed to not change
10 very much between the periods, at least not change
11 much between the periods when this distant signal is
12 added.
13 So the principal change that I'm observing
14 in that particular category is occurring in the
15 distant signal category.
16 Q But you could have a percentage -- if you
17 did percentage increases for the distant signals, and
18 you're doing percentage increase in viewing hours for
19 Category X only by looking at the distant signals,
20 okay? Are you with me so far?
21 A I am.
22 Q That percentage increase could be much
23 less than the percentage increase that occurs across
24 all of Category X that the cable operator is providing
25 to the subscribers, correct?

1 A If I had done what I think you're
2 suggesting --
3 Q No, I'm not suggesting anything. I just
4 wanted to ask you that first.
5 A As a pure percentage -- as a pure
6 percentage -- as a pure arithmetic calculation, you're
7 correct.
8 Q And your independent variable therefore --
9 in terms of attracting and retaining subscribers, your
10 independent variable could therefore overstate the
11 significance of Category X.
12 A No, that's where I disagree with you.
13 Q Okay.
14 A The reason I disagree with you is that in
15 effect, what you, I think, are suggesting, which is to
16 calculate percentage changes from the base that
17 includes local as well as distant signal programming,
18 would it affect using the equation to assign royalties
19 not only to the programs on the distant signals, but
20 also to the programs on the local signals. And I
21 don't think we want to do that.
22 Q But you would agree with me that in terms
23 of the benefit of a distant signal, one of the
24 benefits may be to provide a type of programming that
25 isn't so prevalent on the local signals?

1 A But again, by looking -- yes.
2 Q Okay. Now this really is my last
3 question. Actually, for the record, Dr. Besen, during
4 his examination by Mr. Neiman, had put up on these
5 charts an equation which I would like to have in the
6 record because I think it will be difficult to follow
7 in the transcript. How should we designate this?
8 CHAIRPERSON JIGANTI: Mark it as your
9 exhibit.
10 MR. HESTER: Okay. I will mark this as
11 PTV Exhibit 19-X. And Dr. Besen, PTV Exhibit 19-X is
12 the equation that you put up on the board before?
13 THE WITNESS: Correct.
14 (Whereupon, the above-
15 identified document was marked
16 as Public Broadcasting
17 Claimants Exhibit No. 19-X for
18 identification.)
19 BY MR. HESTER:
20 Q And this is where you were undertaking to
21 show that the coefficients that you were estimating
22 related to all programming on the distant signals and
23 not simply the programming on the distant signals that
24 had been added or deleted or swapped?
25 A Exactly.

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Q Now, would you agree with me that the -- that the dependent variable, the R_1 or the R_0 that you've shown in your equation here, the dependent variable relates only to the signal that you added or changed, dropped, whatever?

In other words, that the dependent variable relates to the change in royalties that is associated with the decision to add or drop or swap the distant signal?

A No.

Q That percentage change number is based on the -- on the decision to add a given distant signal or to drop a given distant signal.

A Well, that R_1 is total royalties in period one.

Q Well, the percentage change you're showing --

A Is the difference between R_1 and R_0 divided by R_0.

Q How do you measure -- where do you ever show R_1 and R_0 in your calculations? Is that -- you're saying that flows from the percentage change?

A The percentage change is R_1 minus R_0 divided by R_0.

Q Okay, okay. And this equation is what

applies to the 208 observations that you had in your study?

A The last equation, right.

CHAIRPERSON JIGANTI: Mr. Lane?

REDIRECT EXAMINATION

BY MR. LANE:

Q Dr. Besen, you were asked a number of questions about zero to some number, change in programs where --

A I'm sorry, Mr. Lane, I'm having a hard time hearing this hour of the evening.

Q Yes. Do you recall being asked a number of questions about what you called the "infinity percentage changes?"

A Correct.

Q And do you know roughly how many instances of that occurred in the analysis that you did?

A I think the answer is on the order of five or six.

Q In the 1990 study that was referenced in NAB Exhibit 17-X, there is -- the number was 342 observations. Do you recall that?

A I do.

Q And in the study that you presented here in Table 1 and Table 2 of your testimony, the number -

- the equivalent number is 208. Is that correct?

A That's correct.

Q And could you explain why there were some differences between those?

A I think the smallest factor is that back -- the data we got from Cabledata Corporation were somewhat different. The more significant factor is -- are the various filters that I described earlier, much earlier, the filters that involved deleing observations that had significant changes in the basic subscriber fee or significant discrepancies between reported basic subscriber revenues on the product of -- of -- the product of the basic subscriber fee and the number of subscribers, as well as the one -- as well as the filter that involved leading observations where there were very substantial increases; that is 20 percent and in some cases, 30 percent in others of the royalty payments.

So the basic difference is there was a finer set of filters applied in this analysis than in the previous analysis.

I should say, however, that we also report an equation and it's equation -- go back to the very -- because it's Table 1 in the analysis.

If you go and look at the equation that

has no rate or receipts filter, the number of observations is about 400 suggesting that, in fact, the principal difference between the 208 and the 400 is basically the application of the filters.

Q Those are all the questions I have on redirect.

CHAIRPERSON JIGANTI: Any further questions?

MR. HESTER: I wish to move -- I should have done this during my --

CHAIRPERSON JIGANTI: Well, just a moment. Let's give Dr. Besen his release here so he doesn't have to stay around here while we handle these things.

THE WITNESS: I appreciate that very much, thank you.

CHAIRPERSON JIGANTI: Thank you very much and it's been an extraordinarily long day. Mr. Hester, you --

MR. HESTER: Yes, I wanted to move for the admission of PTV Exhibits 16-X, 17-X, 18-X and 19-X.

CHAIRPERSON JIGANTI: Would you rather have 19-X admitted as your exhibit?

MR. HESTER: Yes. I will get it copied in between now and by 11:00 in the morning.

CHAIRPERSON JIGANTI: Any -- any

JSC WRITTEN REBUTTAL STATEMENT

1 objections to any of those exhibits?

2 (No response.)

3 CHAIRPERSON JIGANTI: Okay, they will be

4 admitted.

5 (Whereupon, Public Broadcasting

6 Complainants Exhibit Nos. PTV

7 16-X, 17-X, 18-X and 19-X were

8 received into evidence.)

9 CHAIRPERSON JIGANTI: We'll see you

10 tomorrow morning.

11 (Whereupon, the hearing was concluded for

12 the day at 6:20 p.m.)

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CERTIFICATE

This is to certify that the foregoing transcript in

the matter of:	Hearing: Distribution of 1990, 1991 and 1992 Cable Royalty Funds
Before:	Library of Congress Copyright Arbitration Royalty Panel
Date:	January 24, 1996
Place:	Washington, DC

represents the full and complete proceedings of the aforementioned matter, as reported and reduced to typewriting.

Charles Pigott

Certificate of Service

I hereby certify that on Monday, February 12, 2018 I provided a true and correct copy of the Stanley Besen Direct Oral Testimony (JSC Written Rebuttal Statement Vol. III) to the following:

Canadian Claimants Group, represented by Victor J Cosentino served via Electronic Service at victor.cosentino@larsongaston.com

American Society of Composers, Authors and Publishers (ASCAP), represented by Sam Mosenkis served via Electronic Service at smosenkis@ascap.com

National Public Radio, Inc. (NPR), represented by Gregory A Lewis served via Electronic Service at glewis@npr.org

Multigroup Claimants, represented by Brian D Boydston served via Electronic Service at brianb@ix.netcom.com

Broadcast Music, Inc. (BMI), represented by Brian A Coleman served via Electronic Service at Brian.Coleman@dbr.com

Spanish Language Producers, represented by Brian D Boydston served via Electronic Service at brianb@ix.netcom.com

Public Broadcasting Service (PBS), represented by Ronald G. Dove Jr. served via Electronic Service at rdove@cov.com

SESAC, Inc., represented by John C. Beiter served via Electronic Service at jbeiter@lsglegal.com

MPAA-represented Program Suppliers, represented by Alesha M Dominique served via Electronic Service at amd@msk.com

National Association of Broadcasters (NAB), represented by David J Ervin served via Electronic Service at dervin@crowell.com

Devotional Claimants, represented by Jeannette M. Carmadella served via Electronic Service at jeannette@lutzker.com

Signed: /s/ Michael E Kientzle