1   UNITED STATES DISTRICT COURT
2   FOR THE DISTRICT OF COLUMBIA

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4   FEDERAL TRADE COMMISSION,   .

5   Plaintiff,   .   Docket No. CA 97-0701

6   v.   .   Washington, D.C.
                                                 May 21, 1997
7   STAPLES, INC., et al.,   .   9:30 a.m.

8   Defendants.   .

9   . . . .

                    TRANSCRIPT OF TRIAL
10   BEFORE THE HONORABLE THOMAS HOGAN
              UNITED STATES DISTRICT JUDGE
11

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1   THE DEPUTY CLERK: Civil action number 97-0701

2   Federal Trade Commission versus Staples, Inc., et al.

3   Counsel, will you please state your name for the record

4   beginning with the plaintiffs?

5   MR. CARY: Good morning, Your Honor. George Cary

6   on behalf of the U.S. Federal Trade Commission. At counsel

7   table with me is Mel Orlans, John Weber, and Jim Fishkin.

8   THE COURT: Thank you.

9   MR. KEMPF: Good morning, Your Honor. Don Kempf

10   for the defendants. With me at counsel table are some old

11   faces and some new ones: Mr. Curran, Mr. Gidley, Mr. Smith.

12   Let me introduce you to Mr. Andy Dansicker and Francis

13   Vasquez from White & Case. My associate Mike Becker back

14   there and John Gray, a case assistant who is helping us, Your

15   Honor. We have of course Mr. Sternberg and Mr. Fuente. For

16   the examination, this morning, Mr. Gidley will be cross

17   examining.

18   THE COURT: Thank you, Mr. Kempf.

19   Counsel, thank you for getting in and getting ready

20   to go promptly.

21   I have worked out a reporting situation. We will

22   have reporters who will be available and sharing the burdens

23   so there won't be any delays in getting the transcript out,

24   and the realtime is up and running.

25   This morning, as I understand it, we are going to

1   take up the next witness for the FTC. That will be their

2   last witness in their case-in-chief; is that correct?

3   MR. CARY: Yes, Your Honor.

4   THE COURT: Go ahead now then.

5   MR. CARY: Your Honor, we would like to call

6   Professor Orley Ashfelter.

7   THE DEPUTY CLERK: Raise your right hand, please.

8   ORLEY ASHENFELTER, PLAINTIFF'S WITNESS, SWORN

9   DIRECT EXAMINATION

10   BY MR. CARY:

11   Q.   Good morning, Mr. Ashenfelter?

12   A.   Good morning.

13   Q.   Could you please state your name for the record?

14   A.   Orley Ashenfelter.

15   Q.   And, sir, could you please state your employment?

16   A.   I'm professor of economics at Princeton University.

17   Q.   Do you have an endowed chair at Princeton?

18   A.   Yes.

19   Q.   And the name of the chair?

20   A.   It's the Joseph Douglas Green 1895 Professor of

21   Economics.

22   Q.   Do you hold any academic positions other than professor

23   of economics?

24   A.   Yes. I'm the editor of the American Economic Review.

25   Q.   What is the American Economic Review?

1   A.   The review is the main peer review journal of the

2   American Economic Association. The association is the

3   primary group of academic economists. The review is the main

4   peer review journal that the association publishes. It is by

5   far the largest of the journals.

6   Q.   And how long have you been editor of the American

7   Economic Review?

8   A.   About 10 years.

9   Q.   Is it fair to say, Professor, that the American Economic

10 Review is the leading economic journal in the world?

11 A.   Well, I would say it is a leading economics journal in

12 the world but there are undoubtededly other people, for

13 example, at the econometrics society that would say their

14 journal was the best. It is certainly one of the best.

15 Q.   What courses do you teach at Princeton University?

16 A.   I usually teach econometrics and labor economics.

17 Q.   Do you do research in those areas?

18 A.   Yes.

19 Q.   Would you explain what econometrics is?

20 A.   Econometrics is the application of statistical methods

21 to economic problems.

22 Q.   Now as a professor of economics and as a professor of

23 econometrics, have you appeared as an expert witness in any

24 proceedings?

25 A.   Yes.

1   Q.   And have you ever been retained by any United States

2   Federal Courts to serve as an expert for the Court itself?

3   A.   Yes.

4   Q.   Could you please describe the cases that you have been

5   asked by the Court to serve as its expert?

6   A..   Once in a discrimination suit at a hospital in Michigan,

7   where there were allegations of race discrimination; and the

8   goal was to prepare an independent -- a report independent of

9   the reports prepared by the parties.   That case settled.

10   A second time in a product liability litigation

11   involving a drug called Bendectin where the goal was to try

12   to define potential members of a class of people who might

13   have been harmed, but who had not yet come forward with any

14   claim of harm.   So I made an attempt to estimate -- I

15   attempted to estimate what that would be, to facilitate a

16   settlement.

17   A third case involved -- that was settled, too.

18   Q.   That was also a case where you were acting on behalf of

19   the court not the parties?

20   A.   Yes.   I was retained by the Judge in that case.

21   Q.   Okay.

22   A.   A third one was recently in Richmond, a voting rights

23   case where where -- Richmond apparently has an at-large

24   voting system for the city council; and there were questions

25   about whether that was in violation of the Voting Rights Act

1   and I was asked to study the relationship between African

2   American presence in certain areas and -- and the way voting

3   went in those areas. That case was also settled.

4   The last one I can remember is a case involving

5   alleged absentee voter fraud in Philadelphia where where

6   there was little doubted that there was some absentee votes

7   that had been cast improperly.

8   The issue, though, was whether or not the number

9   was sufficient to change the outcome of the election, and the

10   Judge employed me to try to estimate what that outcome would

11   have been in the absence of the vote fraud. In that case, I

12   testified.

13   Q.   Have you also been involved in teaching statistics and

14   econometrics courses for Federal Judges?

15   A.   Yes. Since 1979 I regularly taught courses that are

16   designed for -- statistics or econometrics for Judges,

17   sometimes also for law professors.

18. Q.   Who sponsors those courses?

19   A.   There are two groups. The George Mason University Law

20   School sponsors one program which I participated in for a

21   long time; and the Federal Judicial Center also sponsors

22   similar programs which I've also participated in on several

23   occasions.

24   Q.   When was the most recent such occasion?

25   A.   The FJC had a program in Los Angeles in January that I

1   participated in.

2   Q.   Uh-huh. Have you ever been retained by the Federal

3   Trade Commission?

4   A.   Yes.

5   Q.   On what occasion?

6   A.   On one occasion, I was -- I am a repository for the

7   world's wine auction prices. I publish a newsletter about

8   them. And the FTC retained me because there was a

9   telemarketing scam that involved brokering out wine as an

10   investment; and this -- by the time they reached me, they had

11   almost 200,000 cases of wine; and were growing -- none of it

12   was being sold back to consumers. The question was how much

13   was the wine really worth.

14   In this particular case, some of the wine had

15   actually been sold in auctions, in regular commercial

16   auctions, and I keep track of all the prices and volumes in

17   those auctions; and I did a little study to estimate what the

18   valuation of the wine actually was as opposed to what the

19   claims were by the people who were operating the investment

20   enterprise.

21   Q.   What was the result of that case?

22   A.   The -- as I understand it, there was an agreement

23   reached whereby this company stopped selling, telemarketing

24   this -- effectively worthless wine -- not worthless but worth

25   far less than what people were thinking it would be worth;

1   and the -- now the wine is being -- it is worth -- the wine

2   is being brokered by a man in San Francisco who was, I

3   believe, appointed by the parties; and there are a lot of

4   good deals. Somebody is buying cheap wine.

5   Q.   Now what other courses besides econometrics have you

6   taught at Princeton University?

7   A.   I've taught labor economics and microeconomics.

8   Q.   What is microeconomics?

9   A.   Microeconomics is the study of markets and pricing of

10 factors -- factors of production as we call them, and

11 products, and market structure, and so on.

12 Q.   Do you also review articles for the American Economic

13 Review in the subjects of microeconomics and industrial

14 organization economics?

15 A.   Yes. At the review, we have four -- I appoint three

16 other editors. I normally handle the papers in applied

17 microeconomics, which typically includes an empirical

18 industrial organization, labor economics, and other empirical

19 microeconomics fields, with the exception primarily that I

20 don't handle public finance.

21 Q.   What is industrial organization in economics?

22 A.   Well, it's the study of the organization of industry.

23 Q.   Would you consider yourself to be an industrial

24 organization economist?

25 A.   No.

1   Q.   Is your main or primary area of specialization in

2   econometrics?

3   A.   I would say economics -- econometrics and labor

4   economics are the two. I wouldn't say it was just one.

5   Q.   Okay. Now, you defined econometrics as the application

6   of statistical techniques to economic problems. Is there an

7   application for such statistical techniques to the analysis

8   of pricing in markets?

9   A.   Yes.

10   Q.   What were you asked to do in this case for the FTC?

11   A.   I was asked to try and explain why the FTC's economists

12   had estimates of the possibile price effect of a merger

13   between Staples and Office Depot that was different from what

14   had been arrived at by Professor Hausman, whom I believe was

15   retained by the parties.

16   Q.   Professor Ashenfelter, I have been guilty of this as

17   much as anybody, I have described econometrics in this

18   proceeding as a black box. What I would like to do a little

19   bit here this morning is take the lid off the box and have

20   you explain what is inside the box so that we can understand

21   exactly what was done here.

22   With the Court's indulgence, I would like Professor

23   Ashenfelter to use the white board to illustrate his

24   testimony.

25   THE COURT: Yes, sir.

1   BY MR. CARY:

2   Q.   Professor Ashenfelter, could you step to the white board

3   and explain for me what the term regression analysis means,

4   where that term comes from and how regression analysis

5   works?

6   A.   I'd be happy to.

7   PRESIDING JUDGE: Can you speak up so the reporter

8   can be sure to hear you and the audience can hear you, too.

9   The reporter is there. There is a mike if you need it. I

10   think your voice is enough to carry.

11   THE WITNESS: Tell me if I'm fading.

12   I think this will be helpful, Your Honor, for what

13   I'm going to say and also for what I believe Mr. Hausman or

14   others will say, too.

15   Regression analysis is a very -- not a complicated

16   thing; and I usually introduce it by saying it was invented

17   by a man named Galton. Galton was a geneticist in the 19th

18   century. His interest was in the genetic relationships, in

19 . particular the relationship between a height of children of

20   fathers. So I'll make it a very simple graph. In this

21   direction, the height of the dad, in this direction the

22   height of the son.

23   What Galton discovered -- he actually had data that

24   has been reproduced, what he discovered was -- it seems

25   natural if dads are taller, sons will be taller. What Galton

1   discovered was if we were to plot the data so we think of a

2   combination of a pair, father and son, as having two heights,

3   one plotted in this direction, one in that. What he found

4   was that as you plotted the points, it looked something like

5   that. [Indicating.]

6   Now what the importance of that is that you can see

7   generally speaking if dad is taller, the son is taller; but

8   it is not true that once you know the height of the dad that

9   you know exactly what the height of the son will be.

10   There's something left over. So you see here, for

11   example, there are two dads I have drawn who are the same

12   height and this one has a shorter son than that one. What

13   Galton discovered was -- it is called regression analysis for

14   this reason. He figured out a way to draw a line through

15   these points and get the average relationship between the

16   father and the son. The average relationship, on the average

17   what happens if a dad is an inch taller to the son.

18   What he found was that the relationship being the

19   heights of fathers and sons could look like this. Think of

20   the height of the son, subtract off the average of all sons.

21   So we are talking about the -- whether the son is taller or

22   smaller than the average. He found that that could be

23   written as the height of the dad minus the height of the

24   average dad.

25   And this B he estimated to be about .65, which,

1   incidentally, still holds up.

2   What that means is the reason it is called

3   regression analysis is because what this implies is the good

4   news is -- or the bad news is -- if you are a tall dad, so

5   let's say you are an inch taller than the average dad, you

6   can expect your son to be taller than the average son but not

7   by as much as you are. So he called it regression because it

8   implies that as you go through the generations, each extra

9   generation inherits part of the height but not all of it. In

10   fact, if it were true, we would see 25 foot tall people and

11   we don't.

12   What he discovered was how much inheritability

13   there was. The bad news if you are tall, your son is

14   possibly not going to be as tall as you compared to the

15   average. Ut the good news is if you are short, your son has

16   a better chance to go toward being average relative to you.

17   There's good and bad. We call it regression analysis because

18   of the fact that Galton was interested in that problem.

19   Today we use this for many different things in all different

20   branches of science. What we use it for has nothing to do

21   with this at all. In other words, regression, inheritability

22   of heights has nothing to do with what we are doing. We call

23   it regression analysis just for that reason.

24   To give a view examples, in later economics, a

25   standard relationship would replace this. We'd say up here

1   we put a person's wage; down here we put their education.

2   And you find that basically there's a slope of a

3   relationship. People with more education make more money.

4   That's actually called labor economics.

5   In financial economics, you do the same thing.

6   This is what I heard talked about yesterday. Suppose I put

7   down here the change in the average price of, say, the S&P

8   500, some index of the market. I put up here the change in

9   the price of some particular stock. This might be whatever,

10   Staples, Office Depot, something else or OfficeMax or Office

11   anything.

12   Generally speaking, if the market moves up,

13   generally speaking, individual stock prices move up. The

14   slope of this line is called the beta in financial

15   economics. It usually uses the same word Galton used. He

16   probably used B. Beta makes it sound a little bit more

17   esoteric. Beta is the slope of the relationship between the

18   price of the changes of the individual stock and the index of

19   the market. High beta stocks are ones that are considered

20   volatile because they move a lot relative to the market. Low

21   beta stocks, flat ones, for example, are considered ones that

22   are not so volatile.

23   That is an example from finance. So financial

24   economics does the same thing. When you do it this way that

25   is called the market model. Those are all kind of examples.

1   BY MR. CARY:

2   Q.   Can you show us using that illustration what

3   the regression analysis that you did in this case was about,

4   just in broad terms. What did you put on that left axis and

5   what did you put on the horizontal axis?

6   A.   What is being done -- and I have -- Professor Hausman

7   did the same thing -- what is going on here is the following:

8   if I put the number of Office Depots down here, let's say

9   number of Office Depots, and I put the price at a Staples

10   store, the average -- some index of the average price of the

11   store, Staples store, what is being found in the data is that

12   there are -- there's a relationship. The relationship is

13   like this. [Indicating.]

14   The more Office Depots there are the lower the

15   average price of Staples products in that same place. Where

16   there are Office Depots. So what we are trying to do here is

17   to measure the average relationship between those. I have

18   found that that is a negatively inclined relationship.

19   Professor Hausman found the same thing. The discussion has

20   been over the size, the magnitude.

21   Q.   Okay. So basically you and Professor Hausman both agree

22   that there is a relationship between the number of Office

23   Depots in the market and the prices that Staples charges; is

24   that right?

25   A.   Yes.

1 Q. All right. Now let's go back a little bit to your

2 hypothetical or your example of a father's height and a son's

3 height. You described the situation of trying to figure out

4 what a son's height might be by looking at a father's

5 height.

6   In that situation, which of those would be

7 characterized as a dependent variable and which would be an

8 independent variable, and what do those terms mean?

9 A. Well, let me use the height example. The height of the

10 son you might say is A plus B times the height of the dad.

11 In this analysis, we say the height of the son depends upon

12 the height of the dad, not the other way around. The

13 causality is clear-cut. This is called the dependent

14 variable because it depends --

15   THE COURT: Dependent what, I'm sorry?

16   THE WITNESS: The dependent variable.

17   THE COURT: I just couldn't hear that.

18   THE WITNESS: Dependent variable. This is called

19 the independent variable because we imagine that it varies

20 independently of what is being explained. So these are

21 sometimes called -- they are all different names for the same

22 thing, depending upon what subject you look at. Sometimes

23 this is called the left-hand side variable and sometimes the

24 right-hand side variable. Traditionally the dependent

25 variable is on the left and the independent is on the

1   right-hand side. Sometimes this is called the regress-and

2   and this is called the regress-or. The one -- that is one

3   that didn't catch on. Not a bad word actually. There are

4   other words for it, too, depending on -- different topics,

5   different subjects use different words to describe it.

6   Regression analysis is common to almost all aspects of

7   silence.

8   THE COURT: Just go back to the height of the son

9   equals. What do the other symbols stand for on the

10   right-hand side?

11   THE WITNESS: Let's go through this. What we are

12   going to do -- that's a good question. This is A, this is

13   B. This is called the intersept in the line, intersept.

14   This is called the slope. So you can think of this as the --

15   this is -- this is also known as the coefficient of the

16   independent variable. It is a number which will be

17   determined imperically. Nobody knows what it is in advance.

18   This is unlike pure physics where you know what the

19   coefficient is supposed to be. It is where we believe there

20   is a relationship. We don't know what the nature of the

21   relationship is. We have to try to determine it

22   empirically. Even in physics you have to often determine it

23   empirically because measuring is imperfect. Where most of

24   this was invented was in astronomy.

25   So that is depend and independent variable. This

1   is often called the intersept. We will come back to this in

2   a second.

3   THE COURT: All right.

4   THE WITNESS: This is the slope coefficient or the

5.   co-efficient of the independent variable or sometimes it is

6   called -- probably most properly -- the regression

7   coefficient. It is the -- what -- the reason it is called

8   that by the way is because it is the coefficient of

9   regression. It is what Galton was after.

10   BY MR. CARY:

11   Q.   When you say the slope coefficient, is that related to

12   the angle of that line? Is that what you are referring to?

13   A.   That's right. That's exactly the slope of that line.

14   The change in Y for a unit change in X. Or there is no X and

15   Y here. It is height of son and height of dad. It is unit

16   change in son's height for a unit change in heights of dads.

17   Q.   The relationship of the two variables hat you are

18   comparing?

19   A.   That's right. It tells you how much the dad's height

20   translates into the son's.

21   Q.   If I wanted to test the proposition that the father's

22   height is not the only factor that affects the son's height,

23   is there a way using a regression analysis that I could test

24   both those things, the dad's height and some other issue that

25   might --

1 A. Yes, there is. In fact, in this case, you would.

2 People often ask me what about the mother. Doesn't she

3 matter? Of course, the answer is the mother matters. Galton

4 knew that. He did not know how to actually -- at least we

5 don't think he knew how to fit a multiple regression.

6 Basically the idea of a multiple regression is the same idea

7 as this. Which is to say now there is a coefficient for the

8 dad, say. And we might say the mother matters, too, doesn't

9 she? Yes, of course. So there is E for the mom times the

10 height of the mom.

11   Galton actually included the mom. He used --

12 actually used a weighted average of the heights of the mother

13 and father in predicting the sons. I don't think anybody

14 knows for sure how he got it, but he got pretty close to a

15 good answer. The key thing here is that this is -- the

16 height of the son depends upon the height of the dad and mom

17 plus some extra random stuff. I will call it random stuff.

18   Things we don't know why. We don't have an

19 explanation for. All we know is it is independent of the

20 height of the mom and dad, but we cannot predict precisely

21 what a person's height is from knowing the heights of their

22 mom and dad. There are other things involved even though

23 there is some relationship between them.

24 Q. Using this regression analysis, can one figure out for

25 example how important the height of the father is relative to

1   the height of the mother in the resulting height of the son?

2   A.   Well, you can estimate separate coefficients so the same

3   method we would use to fit a regression that has one

4   independent variable can be used to fit -- to determine

5   empirically the coefficients and to let the two variables,

6   height of mom and dad, compete in explaining the height of

7   the son.   Empirically, we can determine which one is

8   important or if none of them are important.

9   Q.   Now on the random stuff, let's say that I wanted to test

10   the proposition that the height of the next door neighbor

11   affected the height of the son.   Could you put that in the

12   equation and tell me whether there's any relationship there?

13   A.   Yes.   You could.   You could include that as a variable.

14   The neighbor's height.   And going -- it might turn out to be

15   significant.   I don't know.   I doubt it.   You could imagine

16   that they would say they are related based on the fact

17   certain groups live with each other, they segregate

18   themselves, generally I don't think you think that.

19   We also have -- the thing that goes with regression

20   analysis is tests of statistical significance.

21   So it is always possible -- if you have any set of

22   data, there will be some relationship -- turn -- may turn out

23   to be some relationship between the dependent and independent

24   variable you set up.   That doesn't mean it really exists.   It

25   could be an accident.   If I flip a coin four times in a row

1   there is some chance I will get four heads. So the test for

2   statistical significance is just a test to determine whether

3   or not the relationship you observe is likely to get a

4   chance. You never rule out chance completely, but you can

5   quantify what the likelihood is that it would be due to

6   chance. So we normally test the statistical significance,

7   say, of that other variable.

8   Presumably, it would come out not to be

9   statistically significant, but it may turn out to be. We

10   would then be able to determine empirically whether or not

11   some other variable matters.

12   Q.   And what is the name of the test of statistical

13   significance?

14   A.   Well, most of them are based on if you test individual

15   coefficients most of them are based on T tests or sometimes

16   called Z tests for situations where you have a lot of data.

17   Q.   Okay. Now going back to our example here, the

18   Staples -- the number -- the price of Staples, the average

19   price in a Staples store and the number of Office Depot

20   stores and what the relationship of those is, what was the

21   dependent variable that you looked at here?

22   A.   The dependent variable was the price index which was

23   originally constructed by Professor Hausman of the average

24   price of some 200 units, 200 items in a typical -- in a

25   Staples store.

1   Q.   Okay. You just took the Hausman -- the price index

2   prepared by Professor Hausman on behalf of the parties and

3   you used that?

4   A.   Yes. To start with. Then I recalculated in some cases

5   for areas where I didn't have the data.

6   Q.   Okay. And the independent variables that you looked

7   at?

8   A.   The independent variables are of two types. One are

9   controls for various versions of this, but one is a control

10   for which store we are looking at; the idea being there may

11   be cost differences or other differences in prices across

12   stores; and the other that you can control for is time; that

13   is to say, prices may vary through time for different stores;

14   and then those variables are really what we call controls and

15   in addition to that, there are variables measuring the number

16   of -- presence or absence and number of potential --

17   possible, possible competitors. I say possible because we

18   will include the variables and allow for the data to tell us

19   whether they are, in fact, having an influence on the price

20   of a -- that is being charged at a typical Staples store.

21   Q.   Going back to my example, you would ask the question by

22   putting it in the right-hand side of the equation. Does the

23   existence of a Wal-Mart make any difference on Staples'

24   prices and you would let the data tell you whether there is

25   anything statistically significant there?

1   A.   That's right. And also determine the magnitude.

2   Q.   Okay. What is a simulation?

3   A.   This is an important point, because there are going to

4   be simulated price effects from this analysis. There's a

5   very easy way to see what it is. There's nothing very

6   complicated. I didn't put any units on here. I'm now going

7   to put units on here. This is zero.

8   It means there is no Office Depots. Let's have

9   one, two, three, one, two, three. Just so we have -- there

10 could be more, obviously; but in an area surrounding a --

11 near to a particular Staples store, so the dependent variable

12 is the average price in a particular Staples store; and now

13 we are going to look at the relationship between that and the

14 number of Office Depot stores in the area.

15   Now, the simulated price effect is -- the slope of

16 this line is whatever it comes out to be empirically. But

17 whether or not there is an actual price effect of closing

18 down or eliminating Office Depot depends on whether there are

19 any office depots in the area of this Staples store.

20   So let's suppose -- let's take a simple -- start

21 off and do each case. Suppose we have a situation where

22 there are three Office Depot stores; then we expect that the

23 price level at that Staples will look like that, I -- you can

24 read off what it is. Suppose I hypothetically, I imagine the

25 experiment of closing them down, eliminating them, what

1 happens to Staples' prices? It goes up to here.

2 [Indicating.]

3   The simulated price effect of eliminating the three

4 Office Depots is actually not just the slope of the line, it

5 is the slope of the line times the number of stores in the

6 area.

7   So the simulated price effect depends on two

8 things. It depends on the strength of the relationship in

9 the number of Office Depot stores in the price of Staples but

10 it also depends how many Office Depot stores are near

11 Staples.

12   Take the opposite extreme. Suppose there are no

13 Office Depot stores next to this Staples. Then the simulated

14 price effect of closing Office Depots is nothing. There is

15 no effect. Because we are already at that point presumably.

16   Now in reality, of course, there will be some that

17 are two, some that are three, some that will be two, some

18 that will be one, some that will be zero. The price effect

19 is the effect in those markets where there are Office Depots,

20 the average of those three effects weighted by the number of

21 cases that exist in each of the categories.

22   So an important point is that there is a regression

23 analysis; but in addition to that, there is a simulated price

24 effect. The simulated price effect, the regression could

25 show that the number of Office Depots matters for the price

1   of Staples; but the simulated price effect could nevertheless

2   be very small if it turns out there are very few Office Depot

3   stores in the places where Staples already exists.

4   So there are two aspects, two important parts to

5   the simulation. One is knowing what the regression looks

6   like, the slope of this line. The other is simulating or

7   taking as an example each one of the cases and figuring out

8   what the price effect is for each one of the different

9   Staples stores. That's basically all that is going on here.

10   It is nothing -- it is empirically a lot more complicated

11   than this because there are thousands of observations, in

12   some cases hundreds of variables; but, in fact, the basic

13   idea is just exactly this.

14   Q.   When you say the -- it is the result of knowing two

15   things, the slope of the line and the number of instances of

16   overlap, let's see if I understand this, what you are saying

17   is it depends on how strong the interaction is between the

18   two and it depends on how often they interact in the

19   marketplace; is that right?

20   A.   That's right. It depends on both of those things.

21   Q.   All right. Before we ask you to resume the witness

22   chair and go through the results, is there anything else that

23   you feel would be useful or helpful in terms of understanding

24   the mathematics of this, the statistics of this?

25   A.   I think we have gone through most of it.

1   Q.   Okay.

2   A.   If there's any question, I would be happy to --

3   THE COURT: All right.

4   MR. CARY: You may return to the witness chair.

5   BY MR. CARY:

6   Q.   Let's go back to where we left off. I asked you what

7   the FTC asked you to do and you stated that you were asked to

8   figure out why the FTC economists were coming up with one

9   answer and why Mr. Hausman was coming up with a different

10   answer.

11   A.   You know what? I think I should go back over there for

12   one second. Let me tell you why.

13   MR. CARY: Let me stop your right there. Your

14   Honor, would a copy of this sheet be helpful to you? We can

15   press the button and print one out?

16   THE COURT: Why don't you do that?

17   MR. CARY: All right.

18   THE WITNESS: I think one of the reasons there was

19   a dispute -- and I should have mentioned this before -- had

20   to do -- I would like to erase this.

21   Here I think is one reason for it. This is the

22   average price at a given Staples store. There are two ways

23   that you could imagine looking at the relationship between

24   the number of Office Depots and the price of Staples. One

25   way is you could do what is called a cross-section analysis.

1   It is called cross-section because the idea is that you will

2   look at different places go across areas, compare places

3   where there are a lot of Office Depot stores, not very many

4   Office Depot stores, and compare the prices in the two

5   areas.   That was indeed done, a cross-section analysis.

6   There are advantages of cross-section analysis.

7   One advantage is that it is often the case that the

8   measurement of the right-hand side or independent variables

9   can be more reliable, that the measurement, that any error

10   may be a smaller fraction; so that can be an advantage.

11   Another advantage is if you are firmly -- if you firmly

12   believe it, it may give you a long-term relationship that --

13   with -- the sort of long-term relationship would be if things

14   settled down into a equilibrium.   It is also possible to do

15   something else.   There is a time series, there are different

16   names.   More appropriately, I would say panel data, or we

17   sometimes say fixed effects model.

18   These are all just different ways of saying it.

19   All they are really has to do with the following.   Suppose we

20   put on this axis the price of Staples in a given place.   Over

21   here we put the number of Office Depots.   What potentially is

22   a problem with this?   Let's say we get some relationship like

23   that.   One potential problem is that maybe there's something

24   correlated with the number of Office Depots which also

25   correlates with the costs of doing business in this area.   So

1   the great advantage of the panel data analysis is that you

2   get rid of that. Here is how you do it. You get rid of it

3   by taking the change in the number of Office Depots and the

4   change in the price at a given Staples. This is called the

5   panel data or fixed effect estimate.

6   I believe that a lot of it was being done by the

7   Federal Trade Commission economists, was cross-section work.

8   Doctor Hausman did a lot of work using panel effect work.

9   Basically, what you are saying is as long as the cost -- the

10   price of doing business in a particular area, it can change,

11   but so long as it only changes -- we can identify the effect

12   of the Office Depot coming in. That's how we are going to do

13   it. Strictly from the coming in or going out. The panel

14   model estimates the effect of the number of Office Depots on

15   the Staples' prices by using the number of changes, whether

16   they come in or go out. The cross-section -- you can always

17   do a cross-section. You can't always do a time series. If

18   all the stores were exactly the same all the time you

19   couldn't do an analysis. When you can, it has the advantage

20   it might allow you to control for -- what is the advantage?

21   The advantage of this method is that it might allow

22   you to control for differences of costs in doing business in

23   different areas. As long as those -- like it costs more to

24   do business in one place than in another. If those costs

25   stay in a fixed ratio, this will get rid of that. There

1   won't be any problem due to that. Whereas the cross-section

2   analysis could give you a spurious relationship in the number

3   of Office Depots and the prices. That's the purpose of doing

4   this kind of analysis.

5   And I believe that there was some dispute over

6   whether this was a good idea, which way to do it.

7   Q.   Okay.

8   A.   I ended up thinking it was a good idea to do what

9   Dr. Hausman did.

10 Q.   Are there also advantages to using the cross-section

11 rather than a fixed effects model?

12 A.   Yes. I think I mentioned that the biggest

13 disadvantage -- there are several disadvantages. The biggest

14 disadvantage of the panel data model way of doing it, apart

15 from the data requirements -- there are many situations you

16 just can't do it, but apart from the data requirements I

17 think the biggest disadvantage is the fact that it put as

18 high premium on measuring everything very accurately.

19 Because now we are going to identify any price effect off

20 changes in the number of Office Depot stores; and if there's

21 any failure to align the prices, price changes correctly with

22 the changes in the number of Office Depots, if there's any

23 key punching error, any kind of mistake, those mistakes will

24 typically be a much higher fraction of the variability in the

25 data in a -- in the changes than it would be in the

1   cross-section levels. So the big disadvantage is that the

2   potential for problems with measuring error increases.

3   Q.   So it is fair to say there are advantages and

4   disadvantages to both cross-section and fixed effects;

5   correct?

6   A.   Yes.

7   Q.   Are there advantages to doing both?

8   A.   I think if you can do both, it is a very good idea to do

9   both.

10   Q.   And in this case, did you end up doing both?

11   A.   Yes.

12   Q.   Were the results consistent or inconsistent?

13   A.   They are pretty similar in this case. Quite similar.

14   Q.   Does that give you any comfort as to how well the data

15   is telling us about these relationships?

16   A.   Well, yes. I think it does. It helps. When they give

17   you the same answer, you are not put in the position of

18   trying to figure out whether one is better than the other.

19   Q.   Okay.

20   A.   Yes. I think it is helpful.

21   Q.   Let's go back now and start with the data that you

22   received. As I believe you testified earlier, you received

23   some data that the parties had put together for Professor

24   Hausman. What did you do with that data when you got it?

25   A.   I had some -- I tried to use -- I took that data and

1   tried to make some computations to see what results -- tried

2   to replicate what Dr. Hausman had done and also to produce

3   some additional results that I thought should be included.

4   Q.   Okay.   Let me put on the board a copy of an exhibit we

5   saw yesterday.   Professor Ashenfelter, let me start by asking

6   you would it be helpful in testifying today if you were to

7   have a copy of your computer printouts in front of you?

8   MR. KEMPF: Your Honor, for the record, that is not

9   the one I used yesterday.

10   THE COURT: All right.

11   THE WITNESS: I would like to have a copy of that.

12   Maybe I have one.   Actually, a paper copy would be good.

13   This is not a very --

14   THE COURT: -- clear picture?

15   THE WITNESS: No.

16   MR. KEMPF: Specifically, if it is helpful,

17   Mr. Cary, my recollection is it was either the fourth or

18   fifth column.

19   THE COURT: This is the Government's exhibit?

20   MR. CARY: Yes.   This is Government Exhibit

21   No. 400, Your Honor.

22   THE COURT: All right.

23   MR. KEMPF: For the record, Your Honor, it was a

24   similar but different set of calculations.

25   THE COURT: That is why it is a government

1 exhibit.

2   (Government's Exhibit No. 400 was

3   marked for identification.)

4   BY MR. CARY:

5 Q.   Professor Ashenfelter, I would like you to look at

6 column 1 and I would like you to explain what column 1 is.

7 A.   I think it is going to be better if I can point. Do you

8 have a pointer?

9 Q.   Sure.

10 A.   Is this a laser one?

11 Q.   Yes. It is a laser one.

12 A.   It is not working. Yes, it is. I think this will

13 help. If not --

14   THE COURT: Go ahead.

15   THE WITNESS: Okay. This was my attempt to

16 reproduce what Dr. Hausman had done; and actually it looks a

17 little bit complicated, but this table is a very valuable --

18 at least I found it to be very valuable in trying to figure

19 out what was actually going on in the different sets of

20 numbers. Let me start right here. This is the -- this row

21 up here is going to be what you will focus on, because it is

22 the estimated simulated price effect. It is the effect of --

23 on prices, this index of prices as I mentioned of -- in this

24 particular case, the definition of the merger is that you

25 eliminate the Office Depot stores in a particular area.

1   The reason I say that is because -- we will come

2   back -- a merger could also be defined that you changed the

3   Office Depot stores to Staples stores, so they are both -- I

4   have actually done both. This is the one Dr. Hausman started

5   with. This is what I was trying to do when I reviewed his

6   work.

7   This is the simulated price effect. He had in a

8   report I read something like a .9 percent simulated price

9   effect. Which is pretty close -- he says .9 percent,

10 estimated with great precision or high precision, something

11 like that. In the jargon of econometrics, that means

12 something like .9 percent, and it also means -- high

13 precision typically means statistically very significant.

14   Now, how do we measure that? We measure that by

15 this second number, the S statistic. It is also called the

16 number of standard deviations. That is kind of a common test

17 used in statistics. Usually if it is two or bigger, we say

18 the number of standard deviations is bigger than two. The

19 chances we would get this result, if I -- the probability of

20 getting the result by chance alone is then less than 5 in a

21 hundred. Anything as big as a T-statistic of 11 is like less

22 than one in a million. So this is not a result -- in other

23 words, this relationship isn't due to chance, it is due to

24 something else.

25   BY MR. CARY:

1   Q.   Let me stop you --

2   THE COURT: For the record, you asked about the --

3   you are really talking about row 1, row 2. Horizontally

4   across as opposed to vertically?

5   MR. CARY: Yes, Your Honor.

6   THE WITNESS: This is column 1. This is one whole

7   analysis.

8   THE COURT: All right.

9   THE WITNESS: You can think of it as seven

10 different analyses here. What I'm going to do is literally

11 do this. Start with what Hausman did and see what happens

12 when I make changes.

13   THE COURT: You changed the data for your results?

14   THE WITNESS: That's exactly right. The reason

15 there's different numbers is because either we change which

16 variables are used or we change which data is used. That's

17 exactly right. We will look at that number, look at that

18 number, all the ones in between. This was my attempt to try

19 to find out why there were two different estimates floating

20 around of the effect of the merger, where are these

21 different. That's what this table is about.

22   BY MR. CARY:

23 Q.   Let's --

24 A.   Let's go --

25 Q.   Stop there for just one minute. Let me see if I

1   understand what you just said. What you are saying is that

2   Professor Hausman in his original analysis found a

3   relationship between Staples' prices and the number of Office

4   Depots; is that right?

5   A.   Yes.

6   Q.   And he found a relationship that was highly

7   statistically significant; is that correct?

8   A.   That's what I would say that he found, yes. He didn't

9   say exactly like that. He said "estimated very precisely."

10   But that's what we mean in econometrics.

11   Q.   Basically, you and Professor Hausman both agree that the

12   number of Office Depots in the market effects Staples

13   prices?

14   A.   Yes.

15   Q.   This is not some nonsense correlation we heard at the

16   beginning of this trial?

17   A.   My understanding is that he agrees with that. And the

18   question is how much is the simulated price effect.

19   Q.   All right. So the issue we are going to decide now is

20   whether your estimate of how much the price effect is right,

21   or whether Professor Hausman's estimate --

22   MR. GIDLEY: Objection. Leading, Your Honor.

23   THE COURT: I will sustain that. Just ask him what

24   he is going to talk about and let him answer, instead of

25   telling him.

1   BY MR. CARY:

2   Q.   Can you please proceed down that column?

3   A.   Okay. This is one analysis. What this stuff down here

4   is about, Your Honor, this tells us what we are going to

5   change, what's going to happen here, what are we going to do

6   to make differences, why are there going to be differences.

7   This will tell us what is going to happen.

8   Hausman did his analysis with -- you can sort of

9   see here. He did his analysis with -- I call it the Hausman

10   sample. It is the same set of stores he used, as I

11   understand it. He used weekly data on individual stores.

12   Weekly price index. He used -- this -- in this particular

13   case, I used exactly the price index that he supplied. It

14   should be -- the protocol has been -- and it is a good one --

15   that the parties exchange data. The data all ultimately come

16   from the parties, from Staples and Office Depot; but they

17   exchanged data with the Federal Trade Commission economists.

18   I see it. We compute things, give it to the economists for

19   Staples and Office Depot, and we look at each other's

20   results. If there's a mistake, I fix it if I find out there

21   is a mistake in something they replicate of ours; and I hope

22   that they do the same thing.

23   I say that by way of understanding. If there is

24   some mistake here, tell me, I'll fix it. I'm not -- and no

25   matter what happens to the numbers, I'll fix it.

1   Okay. So this is now this analysis. So this is

2   now using -- here is the -- so let's think about it. We are

3   going to try to reproduce what Jerry Hausman did. We are

4   going to have the Hausman sample, his weekly data. We are

5   going to use his price index; and we are going to use his

6   measures of the competitive variables which I can explain the

7   best of my understanding what they are. Would you like me to

8   go over there.

9   Q.   Sure.

10   A.   Okay. Professor Hausman does the -- we really should

11   have him do this. My understanding of what he's done -- did

12   you get a copy of this?

13   Q.   Not yet.

14   A.   What are we going to do? I need to erase some of this.

15   Q.   Let me see.

16   A.   You have to define what Office Depots where. So as I

17   understand what Professor Hausman did, let's say that's a

18   Staples store right there. What he has done is to try to

19   measure the number of Office Depots, he put concentric

20   circles around this. He uses zero to five, five to 10, and

21   10 to 20-mile radiuses. So, basically, he tries to measure

22   the number of Office Depot stores here, here, and here, and

23   allowed them to have separate effects on the prices. The

24   idea presumably being the closer they are, the more effect

25   they would have; the further apart, the less effect they

1   would have.

2   I was also supplied with data which gives the

3   number of competitors by what is called the metropolitan

4   statistical area. That is going to come up in the context of

5   this table. What is that? The metropolitan statistical area

6   is something derived by the census. The Census Bureau

7   collects data. When they report data, they report data on

8   metropolitan statistical areas. They define them. In other

9   words, I didn't define them. Professor Hausman didn't define

10 them. The census bureau defined them.

11   They existed before this litigation took place.

12 What is it? The metropolitan statistical area is meant to be

13 an area that has a lot of common economic activity.

14 Commuting patterns would often be in the same area. They are

15 often thought to be like labor markets. They are a way for

16 the census to report data. When you report data they report

17 data typically on an MSA. It may not necessarily coincide

18 with a city, because it may turn out like the Twin Cities in

19 Minnesota, the two are closely intertwined, or whatever.

20   Let's just take this example. Another way to

21 measure the amount of competition for the Staples store is to

22 find out where the metropolitan statistical area is. Say it

23 looks like that. Just drawing that as an example to show how

24 I -- how it could actually not be the same. The disadvantage

25 of this procedure is suppose an Office Depot opens up here,

1   suppose. By Hausman's measure, there's no Office Depot

2   competition for Staples once it is outside the 20-mile

3   limit. So there is an advantage to including all the Office

4   Depots in this MSA.

5   Now, there is a disadvantage. Suppose an Office

6   Depot opens up here. It is not in the MSA; so by the MSA

7   calculation, it wouldn't be a competitor opening up, but by

8   Hausman's it would be. There is actually nothing wrong in

9   using both of these; and in some of the analyses, I used

10   both. There doesn't have to be an either/or. There is no

11   reason the data can't be allowed to tell us which is the

12   better measure and whether or not one of them is

13   statistically significant and one isn't. So that's the

14   competitive difference.

15   Q.   Why don't you go ahead and resume over here.

16   What do you mean by "the data will tell us"?

17   A.   I mean in the regression analysis, we will include the

18   variables and we will let them fight it out in the free

19   market of explained variance for who is going to be the one

20   that wins. Has a coefficient other than zero.

21   Q.   In other words, the regression analysis will tell you

22   what is significant and what is not significant?

23   A.   Yes.

24   Q.   All right. Moving from your column 1 to column 2, the

25   number is different at the top there. It gos from 1.1

1   to .8.

2   First, let me back up. I think we skipped over

3   something. You testified earlier you believe Professor

4   Hausman's estimate was a .9 percent price effect between

5   Depot and Staples but at the top of your column 1 there, it

6   says 1.1 percent.

7   You also testified that you were attempting to

8   replicate Dr. Hausman. Why is it your replication shows 1.1

9   and he showed .9?

10 A.   I don't know. We tried. We didn't get exactly the same

11 result. There are many, many things that go into the exact

12 replication. I didn't have enough details to get exactly

13 back what he was doing.

14   In the area of econometrics, .2 of a percentage

15 point, though, is not -- things like that can vary from data

16 set to data set or way that you analyze it to way that you

17 analyze it. I couldn't get exactly the same result but it is

18 pretty close.

19 Q.   Did Professor Hausman provide you with sufficient

20 instructions to replicate him exactly?

21 A.   I don't have enough information, no.

22 Q.   And is that the reason that your number is 1.1 whereas

23 his is .9, as far as you know?

24 A.   As I understand it, his is .9. I know why ours is 1.1.

25 I did the best I could to try to replicate it.

1   Q.   How confident are you that you came reasonably close to

2   replicating Dr. Hausman's results?

3   A.   I think it is pretty close.

4   Q.   Let's go from column 1 to column 2. What we see there

5   in the line that says simulated price change, moving from

6   column 1 to column 2, the simulated price change goes from

7   1.1 percent to .8 percent.

8   What is the difference between column 1 and column

9   2?

10 A.   You can see from the table what the difference is.

11 Let's see if I can get my pointer. You will see the only

12 thing that's changed here is instead of saying weekly, it now

13 says monthly. So all that's going on is in column 2, in

14 column 2 I'm aggregating out the data monthly. The reason

15 for that is because it turns out that the MSA-based

16 variables, the ones based in the metropolitan statistical

17 area, are related to the monthly data; and so I'm going to

18 need to go to monthly data at some point; and what I'm trying

19 to do here by comparing column 1 and column 2 is finding out

20 whether it makes any difference to the way that Hausman

21 specifies his analysis in changing the data in that way. The

22 answer I draw from this is that it doesn't make much

23 difference.

24   So the .8 is, I would say a little different from

25 the 1.1, but not very different.

1   Q.   Okay.   Just in terms of how we read this chart going

2   across the page on the columns, you have a series of yes's,

3   for example; and then you might have a blank cell and a yes

4   below it.   What are those yes's designed to show?

5   A.   The yes is designed to indicate which category.   So if

6   you -- you could have a no, too, but I just left that out.

7   So if you think of Hausman's sample or the complete sample or

8   if you think of weekly or -- versus monthly, or if you think

9   of Hausman price index, recalculated price index, if it says

10   yes, then it means that that is the alternative used.   If it

11   doesn't say anything, that means that wasn't the alternative

12   used.   That is a way to indicate-- a little shorthand,

13   spreadsheet way of indicating what is the difference.

14   Q.   Okay.   So going from column 1 to column 2, if you look

15   at unit of observations under column 1, it says yes, next to

16   weekly; under column 2, it says yes next to monthly.   That

17   indicates that you shifted from using weekly data to

18   aggregating it up to monthly data; is that right?

19   A.   Yes.

20   Q.   Now why don't you take us through column 3.   What

21   happens in column 3?

22   A.   May I add one more thing?   I tried to make this table

23   self-contained.   So if you look at the bottom here, this

24   little star, is an indication of what the variables are in

25   the Hausman list.   So that little star there goes up with

1   that little star there. So you can actually read what it is

2   that the competitor variables are in Hausman's analysis and

3   you also see what the competitive variables are in the MSA

4   analysis. Then there will be a couple of extra footnotes

5   that will show up shortly. Now you asked me what?

6   Q.   What is the difference between column 3 and column 2?

7   A.   Okay. In column 3, this was my attempt to find out what

8   was going on. There are the MSA-based data, and there's the

9   Hausman concentric circles. This analysis does the

10   following. It lets them compete. In other words, puts them

11   both in.

12   Q.   Going back to this picture, what you have done instead

13   of limiting yourself just to the circles, you have included

14   the metropolitan area square in your analysis?

15   A.   Yes, both.

16   Q.   You included both. What difference did it make

17   including both?

18   A.   You can see the estimated price effect goes up. It is

19   now something like 2.5 percent.

20   Q.   All right. Was the inclusion of the metropolitan area

21   information significant?

22   A.   Yes. The test for whether or not you should use both

23   the Hausman concentric circle variables and these MSA-based

24   data as statistical tests is that they both matter. They

25   both seem to predict Staples' prices.

1   Q.   So, for example, what this might show is that if an

2   Office Depot opens in Tysons Corner, Virginia, it might have

3   an effect on the price of the Office Depot in, say, Falls

4   Church, Virginia. I'm sorry, the Staples in Falls Church,

5   Virginia.

6   Q.   How far apart are they?

7   A.   About 10 miles?

8   A.   Well, that would show up presumably in Hausman's

9   analysis. They are presumably within the 20 mile range. Any

10   situation like the one I described over there, the MSA

11   variables would give you additional information that you

12   wouldn't have and vice versa.

13   Q.   Okay. So Professor Hausman would have picked up the

14   relationships between Tysons Corner and Falls Church?

15   A.   If they are within 20 miles, yes.

16   Q.   Right. Let's assume, on the other hand, a new Staples

17   store opens up in Columbia, Maryland. Let's assume that's

18   outside of 20 miles from Tysons Corner. Using the metro area

19   data, your analysis would pick up whether that Office Depot

20   within the Washington MSA has an effect on a Staples store in

21   the Washington MSA?

22   A.   Well, if they are within the same MSA it would, yes.

23   Q.   So the first difference that we have noted then is that

24   if you include the MSA variables, you are picking up a bigger

25   price effect. What happens if you go from column 3 to column

1 4? What's the difference?

2 A.   Three and four, this is a good example of how this can

3 be complicated. Three and four different in a way which is

4 described in the table, little daggers here. There is the

5 little dagger down there that explains what it is. Here is

6 the potential problem.

7   When we do the price simulation, you have to ask

8 how do you define whether or not there is competition. In

9 other words how do you define whether or not there is an

10 Office Depot in an area that we are considering to be near to

11 Staples.

12   Because we now have two sets of variables that

13 define whether there's an Office Depot. There's two

14 different ways to do it. You could say well, there's

15 competition if there's an Office Depot in the concentric

16 circle; or you could say there's competition if there's one

17 in the MSA; or you could say there's competition if there's

18 both.

19   So what three and four do is very straight

20 forward. All it does is to do it both ways. Since it is

21 arguable about which is the best way to do it, if you --

22 there's no reason not to do both, see what difference it

23 makes to the results. The answer is it does make some

24 difference. 2.5 versus 3.3. These are the kind of

25 differences that can occur because of different definitions

1   and different ideas about what you want to call the simulated

2   price effect. So they are -- there's nothing to be concerned

3   about, but it is something we ought to know about since

4   there's more than one way to do it. I report them both. In

5   fact, in the footnote, it explains which is which and why

6   there's a difference.

7   Q.   So again going back to my hypothetical, if Washington

8   D.C. was an area where Staples was the only office

9   superstore, and if Office Depot decided to enter the

10   Washington market by building a store at the outskirts of the

11   MSA, but more than 20 miles from the heart of downtown

12   Washington, this methodology would pick up any effect of that

13   new Office Depot on Staples pricing?

14   A.   Yes.

15   Q.   And Professor Hausman's analysis would have missed such

16   an effect?

17   A.   Yes.

18   Q.   So if, for example, Staples' prices based on

19   metropolitan areas are zoned pricing, your analysis would

20   pick up the effect of a new Office Depot in the metropolitan

21   area?

22   A.   It should, yes.

23   Q.   All right. Let's move to column 5. What's the

24   difference between column 5 and column 4?

25   A.   Column 5 is carrying through -- let me -- the -- what

1   I'm going to want to do here to get to column 7 is I'm going

2   to want to do a simulation for the whole country. It turned

3   out in the result that I had from Professor Hausman, the

4   simulated price effect didn't include California,

5   Pennsylvania, and some other areas. So what I wanted to do

6   at this point was to get a simulated price effect which would

7   be for the whole country, including everything.

8   At this time, I did not have Dr. Hausman's

9   variables for the whole country; so it was not possible to

10   include both the MSA-based competitive variables and

11   Hausman's concentric circle variables in the same analysis.

12   So what I did by doing column 5 was to see what would happen

13   if I eliminated Hausman's variables but kept the MSA

14   variables.

15   Why is it important? Because I wanted to get to

16   this column where I could do the whole country, and I wanted

17   to see whether taking those variables out would have any

18   effect on the simulated price effect. The idea is this one

19   right here is really just a test, if I can get this to work.

20   This column 5 is a test. It is a test to find out whether

21   these are different; and the purpose of that test is to see

22   whether the leading Hausman's variables would make the effect

23   change from including both; and the preferable way that it

24   would include both, I didn't have the data for both at that

25   time.

1   Q.   Let me try to break that up a little bit now.   You

2   testified that Professor Hausman's analysis which yielded

3   the .9 result did not include any information from California

4 · and Pennsylvania?

5   A.   And some other places, yes.

6   Q.   And some other places? He just left those completely

7   out?

8   A.   He -- apparently.

9   Q.   And when you took the data, you wanted to answer the

10   question of what the effect would be throughout the United

11   States; right?

12   A.   Yes.

13   Q.   Okay.

14   A.   I was asked to -- it was clear that the Federal Trade

15   Commission economists were studying the whole country; and so

16   I was trying to find what the difference was between their

17   results. The one possibility was that they weren't using the

18   same area.

19   Q.   In fact, Professor Hausman was using a smaller area, and

20   the FTC was using a bigger area; is that right?

21   A.   Yes.

22   Q.   Now the reason you had to go away from the Hausman

23   competitive variables, in other words those circles you drew

24   before, to use the metropolitan area was that Professor

25   Hausman didn't give you the data to allow you to use his

1   variables for California and Pennsylvania and those other

2   places?

3   MR. GIDLEY: Objection. Leading.

4   THE COURT: I will overrule that. He has testified

5   to that already. Go ahead. You may answer.

6   THE WITNESS: Do I answer?

7   THE COURT: Yes.

8   THE WITNESS: I didn't have those data. I asked

9   for them. I didn't have them. Whether Hausman provided them

10   to someone else and wouldn't give them to me, I don't know.

11   My understanding was I did not. I did not have them.

12   BY MR. CARY:

13   Q.   Have you since received them?

14   A.   Yes.

15   Q.   When did you get them?

16   A.   Within the last week.

17   Q.   From whom did you get them?

18   A.   They were provided to me by the Federal Trade Commission

19   economists.

20   Q.   Do you have an understanding of where the FTC economists

21   got them?

22   A.   I believe they got them from Professor Hausman.

23   Q.   Do you have an understanding to when the FTC economists

24   got that information from Professor Hausman?

25   A.   I think it was within the last week or so.

1 Q.   Taking you from column 5 to column -- well, let's go

2 back a minute. You said the reason to run column 5 was to

3 test to see how significant it was excluding those Hausman

4 variables. What did you determine in running that test?

5 A.   There's not much difference. You can see the 3.3 and

6 the 3.6 are pretty close together.

7 Q.   All right. What did you do in moving from column 5 to

8 column 6?

9 A.   Well, the other problem here is now we are restricted

10 to -- notice the Hausman sample and -- so that's being used

11 here. It says Hausman sample all the way through. What I

12 have done here, I'm still sticking to the Hausman sample.

13 I've dropped out the variables defined by him. Doesn't make

14 much difference. In order to run the analysis for the whole

15 country, I'm going to have to have a price index for every

16 store, not just for the ones in his analysis.

17   So the price index has to be calculated for areas

18 that he didn't actually calculate it for and provide the

19 data -- provided data for but didn't calculate. So this last

20 column -- this sixth column is doing the analysis now,

21 dropping out these variables, and also using this

22 recalculated index, but on the same sample as Hausman had

23 originally been using.

24   The purpose is to see if it makes any difference to

25 use the recalculated price index. I've looked at the price

1   index. The correlation between his price index and the

2   recalculated price index -- where that's possible to do -- is

3   very high, typically bigger than .99, but they are not always

4   identical.

5   You can see from this analysis that it doesn't make

6   much difference which one of these is used. You get 3.6

7   versus 3.7 percent.

8   Q.   Why are they not always identical?

9   A.   I don't know.

10   Q.   Just something in the data with all the large quantity

11   of data that didn't quite match up?

12   A.   I don't know why. There's some speculation -- for

13   example, I saw one price level that was negative in his data

14   set. One possibility is the way that the computation is

15   done; but I don't -- I do not know for each individual case

16   why it is.

17   Q.   But you are highly confident that the use of the

18   recalculated index doesn't really affect the results very

19   much?

20   A.   It doesn't seem to have much effect on the results, no.

21   Q.   Again all of this is in an effort to include California,

22   Pennsylvania in your analysis?

23   A.   Yes.

24   Q.   And those other areas you talked about. Why don't you

25   take us from column 6 to column 7?

1 A.   Well, now, column 7 it is apparent what is going on.

2 All I did was to expand the data set to include the complete

3 sample. So other than -- the difference between these two,

4 between column -- between 6 and 7, the difference between

5 those is just expanding the data set. You see the number of

6 observations in the simulation goes up from a little over

7 1400 roughly to over 3,000. That's just including the extra

8 observations.

9 Q.   Now, you testified at the beginning what you were asked

10 to do was explain the difference between Dr. Hausman's

11 results and the results that the FTC economists were

12 getting. Can you briefly summarize for us what the

13 explanations are for Dr. Hausman's low result and the FTC

14 economists' higher result?

15 A.   It looks like there's two higher effects. It isn't the

16 use of the cross-section versus the time series, as far as I

17 can tell. It looks like the two reasons for it are first of

18 all -- and probably most important -- the inclusion of the

19 whole country in the simulation; that's the result. You can

20 break it down into two parts. That's the result going from

21 column 6 to column 7. The other one seems to be the

22 inclusion of the -- these competitive variables, possible

23 competitive variables measured at the level of the

24 metropolitan statistical area. You can see if you go from

25 column 1 or 2 to columns 3, 4, 5, or 6, you can see there's a

1   difference.   That's about 1.   This is between 2.5 and 3.5.

2   That difference is due to the apparently -- apparently due to

3   the metropolitan statistical area of the competitive

4   variables.   The last effect is due to inclusion of data for

5   the whole country.

6   Q.   Okay.

7   A.   So it looks like there are two reasons for the

8   difference.

9   Q.   All right.   Let me back up and ask you first how

10 significant is the coefficient?   In other words, from your

11 analysis, can you tell us how important a factor Office Depot

12 is on the prices charged by Staples?

13 A.   This is measured in the -- in this T-statistic.   That is

14 why it is always reproduced there.   You can see the

15 T-statistics are always very large, way larger than two.

16 These were all judged statistically significant price effects

17 by any statistical standard that you would use.   We'd say

18 they were statistically significant, including the one in

19 column 1.

20 Q.   Can you quantify in general terms how unusual it would

21 be to obtain this result through chance?

22 A.   You can quantify -- on a statistical criteria, you could

23 quantify it out, but it is actually less than one in a

24 million.

25 Q.   Did Professor Warren-Boulton ask you to conduct any

1   analyses here?

2   A.   Yes.   Professor Warren-Boulton wanted to see the effects

3   of simulation -- particular simulations of, for example, the

4   effect of changing, simulating the effect of eliminating the

5   Office Depot stores or merging them, in particular merging

6   them.   He wanted to see the effect of reducing the number of

7   Office Depot stores and simultaneously increasing the number

8   of Staples stores by the same amount.   He wanted to see that,

9   in particular, in models where Office Depot and Staples were

10   the only two superstores that were in competition.

11   Q.   So what Professor Hausman did was to assume that all of

12   the Office Depot stores were simply closed, and Professor

13   Warren-Boulton wanted to know what happened if you assumed

14   that they were converted into Staples stores; is that right?

15   A.   Yes.   That's a little bit -- that's a little

16   misleading.

17   In -- let me try to clarify that.   That's not

18   right.   No.

19   What happened was in the analysis I have done,

20   there was also a variable measuring the number of Staples

21   stores in the area.   So it is possible in the analysis I have

22   done with the MSA variables to simulate what would happen if

23   you closed the Office Depots and turned them into Staples

24   stores.   In Dr. Hausman's analysis, he didn't have variables

25   for the Staples stores.   So he couldn't have simulated that.

1   All he could do was close the stores, simulate the closing of

2   the stores. So this was something that could be done because

3   of the way this model was set up.

4   Q.   Okay. But the bottom line, though, is that Professor

5   Warren-Boulton asked you to do the simulation, assuming that

6   the stores were converted into Staples stores rather than

7   simply being shut down?

8   A.   Yes.

9   Q.   I didn't mean to comment on why Professor Hausman didn't

10   do it that way. I just wanted to get the difference.

11   And is the chart up on the board the results of

12   performing that analysis for Dr. Warren-Boulton?

13   A.   Yes.

14   Q.   Now I notice that in this analysis, the percentage

15   impact on prices actually goes down by a percentage point; is

16   that right?

17   A.   Yes.

18   Q.   And the results of converting the Office Depot stores to

19   Staples stores according to Dr. Warren-Boulton's direction is

20   that the impact of the merger would be a 7.6 percent price

21   increase?

22   A.   Yes.

23   Q.   Look directly below that 7.6 percent. There's a figure

24   there of 8.9 percent. Can you explain what that number

25   represents?

1 A. That's a similar simulation, only it is a hypothetical

2 merger of Staples, Office Depot, and OfficeMax in those

3 places where the three of them operate using the same

4 methodology.

5 Q. So according to the statistical analysis that you have

6 performed, if there were a hypothetical merger to monopoly in

7 the office superstore market, the effect of that would be a

8 price increase of about 8.9 percent; is that right?

9 A. If there were a merger of these three stores, the

10 hypothetical price increase would be 8.9 percent. That's

11 correct.

12 Q. All right. This again is using the fixed effects

13 analysis; right?

14 A. Yes. Using the same analysis -- same regression

15 previously as in the previous table. It just defined the

16 simulated price effect a little differently because you are

17 doing a different thought experiment.

18 Q. Let me show you another table. This table is labeled

19 Simulated Impact of Two Hypothetical Mergers on Staples

20 Office Product Prices: Cross-section Model.

21 Can you explain what this table shows?

22 A. This is the exact same analysis -- if you recall, I

23 mentioned that there were two different ways to do this.

24 Using the cross-section relationship and using the panel data

25 relationship. This is the simulated price impact using the

1   cross-section analysis. So this is what would happen if you

2   used the regression coefficients from the cross-section

3   analysis to simulate the price effect. Same exact as the

4   previous table. Same hypothetical experiment but different

5   regression underlying it because it's the cross-section

6   regression.

7   Q.   All right. Again if you used the cross-section analysis

8   which was the technique originally employed by the FTC

9   economists, the price effect is a little bit smaller than it

10   is when you use the fixed effects analysis proposed by

11   Dr. Hausman?

12   A.   Yes, it is. Not much. A little bit.

13   Q.   Okay. How would you characterize the similarity or

14   differences between the cross-sectional model and the fixed

15   effects model in how those similarities or differences affect

16   your opinion of the reliability of the results?

17   A.   I would say they are not very different. They are

18   pretty close together. That suggests that it doesn't really

19   matter which one you use, so it is not an issue of having to

20   choose and trying to figure out which one is really the

21   appropriate method to use. They both look fine.

22   Q.   Professor, you testified that you had recently received

23   some additional information from the defendants and from

24   Professor Hausman; is that correct?

25   A.   Yes.

1 Q.   What additional information have you recently received?

2 A.   I received some computations yesterday that had been --

3 I guess -- produced by Dr. Hausman or someone in his office.

4 Q.   And did you review those computations?

5 A.   Some of them.

6 Q.   In the amount of time you had between yesterday

7 receiving the data and this morning, can you comment upon

8 what those additional pieces of data show?

9 A.   Some of them -- one analysis in particular was a

10 replication of material that was in the first table we talked

11 about; and it demonstrated that in three of the columns in

12 the table I had originally, there was a computational error,

13 had to do with the way that the time effects were defined and

14 the -- that error was then -- I guess that was the day

15 before.

16   I am a little confused now about which day.

17 Anyway, the result was to alter slightly the simulated price

18 effects of a few of the columns. There are other results I

19 received, too, that I haven't had time to check. The one I

20 know includes store-specific time effects; but I haven't had

21 time to really go through any of that.

22 Q.   Let's back you up to the one that you first testified

23 to. You said that there were some computational errors in

24 some of the columns. Can you identify which columns you are

25 referring to?

1   A.   They were in columns 2, 3, 4, and 5.

2   Q.   And do you have an understanding as to how those

3   computational errors occurred?

4   A.   Yes.

5   Q.   What's your understanding?

6   A.   My understanding is the time variables -- this was an

7   attempt to reproduce what Hausman was doing. There was a

8   mistake in the way the time effects were accounted for.

9   Q.   What kind of mistake?

10   A.   Well, it was a programming error.

11   Q.   All right. Data input type of error?

12   A.   More than -- it has to do with writing the program to

13   account for the time effects.

14   Q.   What is the effect of rectifying that mistake on the

15   numbers in those columns; do you know?

16   A.   Well, the one in column two, it doesn't have any

17   perceptible effect. In the others, it slightly reduced them.

18   Q.   Did it have any effect on the result in column 7?

19   A.   No. There was no error in 7.

20   Q.   All right. Now you also testified that you received

21   some additional data yesterday. What kind of data was that?

22   .A.   Well, additional -- I received some additional output

23   which I think I mentioned, and I haven't really had time to

24   look at it carefully.

25   Q.   The exhibit that is on the board here today reflects the

1 corrected results; is that correct?

2 A.   Yes.

3 Q.   That's why it is different from the one that Mr. Kempf

4 put on the board yesterday when you were in the courtroom?

5 A.   I believe that's correct.

6 Q.   So this chart here in 3, 4, and 5 is the chart

7 accounting for those computation problems?

8 A.   Yes.

9 Q.   Did you also calculate the price effects of the merger

10 using a sample of office products referred to as

11 price-sensitive items?

12 A.   Yes.

13 Q.   I'm putting on the board a chart labeled Simulated

14 Impact of Two Hypothetical Mergers on Staples Price for Price

15 Sensitive Office Products: Fixed Effects Model.

16   Does this table represent the results of your

17 analysis of the effect of the merger on price-sensitive

18 items?

19 A.   Yes.   This is the -- this is the component of the price

20 index which is labeled price-sensitive items.   The same

21 analysis was done as on the others, just for that component

22 of the mix.

23 Q.   Does it also show the effects of the merger to monopoly,

24 a hypothetical merger to monopoly -- let me rephrase that

25 consistent with the prior arrangement.   Does it also show the

1   effects of a hypothetical merger of Staples, Office Depot,

2   and OfficeMax on the prices of price-sensitive office

3   supplies?

4   A.   Yes.

5   Q.   Professor Ashenfelter, were you asked to do anything

6   else by the FTC?

7   A.   Yes.

8   Q.   What else were you asked to do?

9   A.   I was asked to try to come up with a method for

10   estimating the effect of Staples product costs on their

11   prices; and, in particular, to try to distinguish between the

12   effects of product costs that were industry-wide on their

13   prices from product costs that were changes that were

14   specific to Staples only.

15   Q.   What data did you use to calculate that?

16   A.   This is based on -- in order to -- the way I was going

17   to do this -- the way I thought of doing it was we're going

18   to try now to think of a regression where we would -- we want

19   to distinguish between cost changes that are unique -- that

20   are Staples-only as opposed to cost changes which are sort of

21   industry-wide.

22   For example, I edit a journal. We have had

23   incredible increases in paper prices. Then they came down.

24   That presumably affects anybody who sells any kind of paper.

25   I wanted to try to estimate the effect of that -- on prices

1   separately from the effect of a cost change which was

2   Staples-only.

3   So the way I thought of to do that was to try to

4   get data on another company, in this particular case Office

5   Depot, Office Depot's costs. Then the idea is to include in

6   a regression analysis just as before the -- we will try to

7   explain the Staples price with the cost to Staples of the

8   product and also as a separate variable, the cost to Office

9   Depot of that product. So this is trying to estimate the

10   effect of office -- the change in Office Depot's costs on

11   Staples prices. Why would that -- why is that sensible?

12   It is sensible because if we want to measure the

13   industry effect, we need to have a measure of cost

14   differences, cost changes that is for -- is not for Staples;

15   so as long as the Office Depot -- we can think of the Office

16   Depot cost reflecting a specific Office Depot component and

17   an industry-wide component. So the part they share in common

18   is the industry-wide component. Staples is having a specific

19   Staples part and an industry-wide part.

20   So I included both variables, Staples' prices as

21   well as Office Depot -- I'm sorry, Staples' costs as well as

22   Office Depot's costs in an analysis. In order to do that,

23   you have to have costs for both types. So to get to the

24   answer of your question, where does the data come from. In

25   order to do this, you have to have data on costs for the same

1 items. They have to be items that are actually sold in both

2 places by both stores. So I stared with a list of SKU --

3 stock keeping units -- that supposedly overlapped and ended

4 up with 30 or so. Thirty, I think; exactly 30, which --

5 where there was enough data they looked to be the same

6 objects, where there was enough data to actually estimate a

7 regression analysis.

8 That's what is -- that's not in that table. That

9 is in a table I have here.

10 Q. Do you have an understanding as to why you were asked to

11 figure out what the effect of Staples-specific cost is on

12 their prices relative to an industry cost?

13 A. Yes.

14 Q. What is that understanding?

15 A. I believe that the interest in this study was due to the

16 fact that if there are cost savings from the merger, they

17 presumably would be specific to the Staples company; and so

18 the interest is in whether or not the cost savings could be

19 expected to be passed through. You would think if there were

20 industry cost savings, that's not what we are talking about

21 here, we are talking about specific company cost savings. So

22 we need to know is what is the effect of that specific

23 company's cost on their prices independent of the effect on

24 their prices of industry-wide.

25 So we look at the effect -- the relationship

1   between cost and prices; that reflects two kinds of price

2   changes, two kinds of cost changes in the data. One kind is

3   specific to the store, and one part is industry-wide.

4   I believe that there's an interest in the part --

5   the effect of cost changes which are specific because they

6   are the part that you would expect -- I believe people

7   think -- from the merger; and so those might have a different

8   effect. Those cost effects might be different than the cost

9   effects that you measure from the average relationship.

10   Q.   So the question was to determine how much of any

11   specific cost changes would be passed through to consumers in

12   the form of lower prices?

13   A.   I believe that's what the ultimate interest is, yes.

14   Q.   Let me show you a chart which is entitled Analysis of

15   the Impact of Costs on Staples' prices and Simulations of the

16   Impact of Two Hypothetical Mergers on Staples' prices in

17   Models Which Control for Costs.

18   Can you explain what this table shows?

19   A.   Now this is the same kind of format as before. Where

20   there's basically four analyses here. So the column heads,

21   1, 2, 3, 4 reflect the four different analyses.

22   The first one is the -- really is an overall

23   average estimate of the effect of Staples costs in this set

24   of stock keeping units on Staples' prices. This

25   number, .571, I wanted to get this estimate because in some

1   of the documents, Professor Hausman suggests that the

2   historical relationship between costs and prices is about

3   two-thirds. So this is an attempt to sort of reproduce what

4   was his understanding. You can see it is a little lower,

5   about .57. This is the effect of a change in -- of costs on

6   prices -- log costs on log prices.

7   The second column then is the same analysis, only

8   it includes Office Depot costs to explain Staples' prices.

9   Which interestingly enough, Office Depot's costs have a

10   bigger effect on Staples' prices than Staples' costs do.

11   Q.   What does that tell you?

12   A.   That suggests that part of the costs which is

13   industry-wide gets passed right through more than the part

14   which is not.

15   Q.   And what happens to the part that's not industry-wide?

16   A.   Well, some of it goes through.   .149.

17   Q.   Now --

18   A.   Not as much, apparently.

19   Q.   Fifteen percent goes through, 85 percent is retained?

20   Roughly?

21   A.   That's -- that's not really quite right. This is log

22   price regressed on log cost. So a better way to say it would

23   be that a 1 percent increase in Staples-specific costs leads

24   to about a .15 percent or decrease -- a -- a 1 percent

25   decrease in Staples costs unique to them, results in about

1   a .15 percent decrease in their prices. That's a more

2   accurate way to say it.

3   Q.   Okay. What do the last two columns show?

4   A.   I realized when we had done these analyses that, in

5   fact, you can use these analyses to produce estimated price

6   effect of the merger. So these two analyses don't include

7   the competitive variables, and you can see from the last row,

8   the last two analyses do, and they are reproduced for

9   completeness to make sure that this analysis doesn't apply a

10 different result than the previous analysis.

11   These effects are bigger; but, remember, this is

12 just for 30 SKUs which are probably price sensitive, probably

13 in the price-sensitive category. So it probably should be

14 compared to the previous analysis of price-sensitive

15 results. It looks like you basically get the same -- there's

16 a specification check to see if you get the same answer. You

17 get basically the same answer. It turns out this is another

18 way, a different way to do the same kind of analysis that was

19 done earlier; only here actual costs are being used as a

20 control variable.

21 Q.   So what conclusion do you draw from the fact that the

22 simulated impact of the merger on price-sensitive items in

23 terms of price is roughly comparable to the simulation that

24 you previously testified to? What does that tell you about

25 the validity of these results on passthrough rates?

1   A.   It tells us it doesn't make too much difference how you

2   do it.   There are similar ways of doing the same thing.   Not

3   exactly, but they get very -- roughly similar answers.   That

4   makes you feel the results are more reliable.

5   Q.   I'd like to go back to the -- to your table and just ask

6   you a couple more questions there.   In doing your analysis,

7   you talked about your competitive variables.   In the

8   footnote, the two-asterisks footnote, you described a series

9   of firms that you control for in this analysis.

10   A.   Yes.   It is small print, but it is there.

11   Q.   Would you identify which firms those are and explain why

12   you control for those firms in your analysis?

13   A.   They are Staples/Office Depot, OfficeMax, Wal-Mart,

14   Sam's Club, Computer City, Best Buy, Office One Superstore,

15   Costco, BJ's, CompUSA, Kmart and Target Stores.   Those are

16   possible potential lists of possible competitors whose

17   presence might have an effect but need not on Staples'

18   prices.

19   Q.   And did you include them in your regression to determine

20   whether, in fact, they did have an effect on Staples' prices?

21   A.   Yes.

22   Q.   What did you determine?

23   A.   Some do, some don't.

24   Q.   Okay.   Which of the firms has the largest effect on

25   Staples' prices?

1 A.   Office Depot.

2 Q.   How big is that effect?

3 A.   I don't remember the exact number, but the simulated

4 price effect is giving you that number.

5 Q.   Did Wal-Mart in your analysis have an effect on Staples'

6 prices?

7 A.   I don't think it did.

8 Q.   What about Target Stores?

9 A.   I don't remember that they did, no.

10 Q.   What about BJ's?

11 A.   I don't remember.

12 Q.   How about Computer City?

13 A.   I don't remember if that did either.

14 Q.   Can you look that up in your binder of results?

15 A.   I can. I don't see it here.

16   MR. CARY: Your Honor, would it make sense to take

17 our morning break?

18   THE COURT: Ladies and gentlemen, we will take our

19 morning recess then. It is about 11:14 or so. We will be

20 back then at 11:28, let's say. About 15 minutes or so. All

21 right.

22   (Recess)

23   PRESIDING JUDGE: Let us get some scheduling

24 organized for a minute. You will finish with your present

25 witness and then we will have cross, which will not finish

1   before lunch.

2   So your next witness for the defendants will have

3   to start sometime later this afternoon, I take it.

4   I have a 12:15 matter I have to do; and then I'm

5   meeting at lunch with another Judge. So we will be recessing

6   around 12:15 today and be back at 1:30 for your planing in

7   the next 35 minutes or so.

8   BY MR. CARY:

9   Q.   Professor Ashenfelter, let me ask you this: you were in

10 the courtroom yesterday when Professor Warren-Boulton was

11 testifying?

12 A.   Yes.

13 Q.   Did he testify to the econometric results in terms of

14 closing -- the simulation of closing various competitors in

15 the marketplace?

16 A.   Yes, he did.

17 Q.   Why don't we return then to this chart here and see if

18 we can wrap this up quickly.

19   I have just a couple more questions for you on the

20 chart, and the first one is you testified about the

21 differences between column 6 and column 7. You testified

22 that one was the complete sample, one was the Hausman

23 sample. Can you tell me how many observations there were in

24 the Hausman sample?

25 A.   The observations for the simulation, as you can see from

1 the table, are 1395. That's not the number of observations

2 in the regression sample, but it is the number of -- affected

3 in the simulation.

4 Q.   If you complete -- if you use the complete sample rather

5 than the Hausman sample, how many observations are there

6 there?

7 A.   There are 3,038.

8 Q.   So the difference basically is you doubled the number of

9 observations by going the complete set rather than the more

10 limited set?

11 A.   Doubled the number in the simulation, yes.

12 Q.   Finally, let me ask you about the bottom row there. You

13 testified that on the bottom, on the competitive variables,

14 you moved from the Hausman variables to the MSA-based

15 variables in order that you could use the complete sample

16 rather than just a partial sample. Have you since received

17 additional information with respect to the Hausman variables

18 on the rest of the sample?

19 A.   Yes, I have.

20 Q.   When did you get that?

21 A.   Within the last week.

22 Q.   Okay. And so now are you in a position to do what you

23 started out doing, namely put yes lines all the way across

24 the Hausman competitive variable line there and use both the

25 Hausman variables and the MSA-based variables based on this

1   new information that you have gotten?

2   A.   Yes. It is possible now to do that.

3   Q.   Have you in fact done that?

4   A.   Yes.

5   Q.   What difference does using both the Hausman variables --

6   first, is it in your opinion preferable to use both the

7   Hausman variables and the MSA-based variables if you have the

8   data to do that?

9   A.   Yes, I believe so. Basically speaking, both variables

10 come in as significant sets of predictors of prices. So I

11 think it is significant to use them both.

12 Q.   This is our example, for example, of Office Depot

13 opening a store in Columbia, Maryland within the MSA but

14 outside the 20 mile ring and asking whether or not entry in

15 the metropolitan area has an effect on Staples' prices?

16 A.   Yes. It is the fact we might want to use both measures

17 in the regression and let them compete to explain the

18 variables in prices.

19 Q.   Including both the measures and letting them compete to

20 explain what is going on, what is the top line result that

21 you would get by including both the Hausman variables and the

22 MSA-based variables. Let me ask it slightly differently. If

23 you were to add a column 8 to your chart and continue the

24 Hausman and in the bottom you would have a yes for Hausman

25 and yes for MSA, what would be the top number on your column

1   8?

2   A.   Depending on how you do it, the number is between 6.5

3   and 7.5 percent.   Somewhere in that range.

4   Q.   All right.   Now when you say depending on how you do it,

5   what are the alternatives in terms of how you do it?

6   A.   Well, you can close the -- remember, there's -- once we

7   include both sets of variables, we have to decide how we are

8   going to define the competitor area.   Are we going to use

9   both ways of measuring it?   Say there is a competitor in the

10   area, or one of them saying it?   So there are two ways to do

11   that.   That automatically gives you two.

12   Then there's also the question of are you going to

13   just close the Office Depot stores or close them and increase

14   the number of Staples stores.   So there are various ways of

15   doing it.   I would say 6 to 8 percent, almost all of the

16   estimates fall in that range.

17   Q.   Thank you, Professor.

18   MR. CARY: I have no further questions at this

19   time.

20   Your Honor, at this point I would like to offer to

21   the court as PX-401 Professor Ashenfelter's curriculum

22   vitae.

23   (Plaintiff's Exhibit No. 401 was

24   marked for identification.)

25   THE COURT: Thank you.   Let me just follow up a

1   couple of questions on those last areas. Your new column 8

2   was a complete sample not using the Hausman sample, I take

3   it? .

4   THE WITNESS: Yes. That's correct.

5   THE COURT: And in the observations in the

6   simulation, in column 1, are 6869.

7   THE WITNESS: Yes. Why is that so big?

8   THE COURT: Yes. Compared to the others.

9   THE WITNESS: Good question. That came to my eye,

10 too. I will tell you why. The observations are store

11 weeks. So in column 1, we're using weekly data. That means

12 we automatically have four times as many observations. The

13 observations are considered to be store weeks. If you have

14 10 stores, you get 40 observations, if you use weekly data.

15 You get 10 if you use monthly.

16   THE COURT: When you say complete sample, it was

17 not defined in the testimony. Does that mean every store,

18 every Staples store in the country? Does that mean almost

19 all? Or mostly all?

20   THE WITNESS: It means mostly all. Yes.

21 Everything where there's data.

22   THE COURT: But not every store?

23   THE WITNESS: There may be stores that are not

24 included because the length of time on which we have data is

25 too short.

1   THE COURT: Yes.

2   THE WITNESS: But generally speaking, it is all the

3   stores.

4   MR. CARY: One more follow up, Your Honor.

5   THE COURT: Yes.

6   BY MR. CARY:

7   Q.   You used data for every store that you were provided

8   with from the parties; correct?

9   A.   Every store that it is possible to use, yes.

10   Q.   You didn't exclude any stores?

11   A.   No.

12   MR. CARY: Thank you.

13   THE COURT: Did you run the studies -- under "unit

14   of observation" you went to the monthly store figures because

15   you wanted to get to the metropolitan area. Did you run them

16   just on the weekly stores, just using the variables, Hausman

17   variables, with your recalculated sample and price index?

18   THE WITNESS: No. You could do that actually with

19   the recalculated. It actually would have been a good column

20   to include. I didn't think of it. That way you could find

21   out whether going from weekly to monthly --

22   THE COURT: You could see what the difference was.

23   THE WITNESS: I don't know what that would show. I

24   could do that if you would like.

25   THE COURT: Not right now.

1   (Laughter)

2   THE WITNESS: Your Honor, I didn't actually mean

3   right now.

4   THE COURT: Thank you.

5   Counsel for the defendant, Mr. Gidley, you may

6   cross.

7   MR. GIDLEY: Your Honor, I would like permission

8   for Mr. Vasquez to retrieve the pointer from Dr. Ashenfelter.

9   THE COURT: Sure. I think it is Mr. Cary's.

10   MR. CARY: I would be honored to have Mr. Gidley

11   use it, Your Honor.

12   MR. ORLANS: Let the record reflect.

13   MR. GIDLEY: I think it is consumable.

14   MR. CARY: I didn't say you could use it up.

15   CROSS EXAMINATION

16   BY MR. GIDLEY:

17   Q.   Before this case, you had never testified before in an

18   antitrust matter had you?

19   A.   That's correct.

20   Q.   You had never given any speeches about merger policy,

21   have you?

22   A.   I never have.

23   Q.   You have never published any articles on mergers, have

24   you?

25   A.   That's correct.

1 Q.   And no court has asked you for help in an antitrust

2 case, has it?

3 A.   I don't think so.

4 Q.   Dr. Ashenfelter, at your deposition, I asked you last

5 week, you didn't even know what the HHI thresholds were for

6 anti-competitive effects under the Merger Guidelines of the

7 FTC; did you?

8 A.   That's correct.

9 Q.   Now, Dr. Ashenfelter, let's put up PX-400. That's the

10 seven-column chart. That one. Right. The one dated May

11 20.

12   Dr. Ashenfelter, this case is the first time that

13 you have simulated a price rise from a merger; isn't it?

14 A.   Yes.

15 Q.   You've never written an article about a simulation like

16 this for a price rise involving a merger, have you?

17 A.   Yes, I have never written an article like that.

18 Q.   Let's talk a little bit about your methodology. When

19 you entered this case, you started with work that had already

20 been performed by the FTC economists; isn't that correct?

21 A.   No. I don't think that's correct.

22 Q.   I believe on direct testimony, you indicated that you

23 had heard about a dispute between Dr. Hausman and the FTC

24 economists. Was that during the course of your engagement or

25 right at the beginning?

1 A. That was at the beginning.

2 Q. All right. So when you began your work, the FTC

3 economists had done an analysis of the pricing data, hadn't

4 they?

5 A. I believe they had, yes.

6 Q. Let's talk a little bit about econometrics in general.

7 Isn't it true that there is judgment in the specification of

8 variables in a regression? Isn't there judgment involved in

9 that, Doctor?

10 A. Yes.

11 Q. Isn't there also judgment applied when a model is set up

12 to do the simulations such as the ones shown in PX-400?

13 A. Yes.

14 Q. And after you've applied the judgment in the regression

15 and then applied the judgment in the simulation, you then, in

16 many instances, will run computer runs; is that correct,

17 Doctor?

18 A. Yes.

19 Q. And, in other words, when we -- withdrawn.

20   Let me ask you about this exhibit. Are you 100

21 percent confident in the seven columns that are up here on

22 the board dated May 20, 1997, PX-400?

23 A. Well, what does that mean?

24 Q. What I mean is are you 100 percent confident that these

25 results in columns 1 through 7 will not change any more?

1   A.   Ever again?

2   Q.   Ever again?

3   A.   I don't think they will, but I don't know for sure.

4   Q.   All right. Now, I think you testified that there was a

5   data error, a computational error; do you recall that

6   testimony?

7   A.   Yes.

8   Q.   And isn't it the case that Dr. Hausman pointed out that

9   computational error; isn't that the case?

10   A.   I wouldn't characterize it that way. But I learned of

11   it through results he provided or someone provided to me that

12   were computations he had made, yes.

13   Q.   The FTC economists didn't independently say they had

14   checked their computations, did they?

15   MR. CARY: Object to the question as

16   mischaracterizing the prior testimony. There has been no

17   testimony about FTC computations.

18   THE COURT: Do you want to rephrase that then?

19   MR. GIDLEY: Sure. I am happy to.

20   BY MR. GIDLEY:

21   Q.   The computations that were in error, who made the

22   errors, Doctor?

23   A.   I made -- we made the errors. Doctor Ashmore and

24   myself. Mr. Ashmore and myself. .

25   Q.   Mr. Ashmore is your partner, isn't he?

1   A.   Yes, he is.

2   Q.   He made the computational errors?

3   A.   Yes.

4   Q.   The errors were detected after Dr. Hausman's diskette

5   was supplied to the FTC; isn't that correct?

6   A.   Yes.

7   Q.   Prior to that time Dr. Gleason, Dr. Baker, and the other

8   FTC economists hadn't discovered the computational error made

9   by you and Mr. Ashmore; isn't that correct?

10 A.   Yes.

11 Q.   Doctor, you testified that you're thinking about a

12 column 8. Is that thinking going to result in a new

13 plaintiff's exhibit at this point? Are you going to do

14 column 8?

15 A.   I have done the computations, but I don't know whether

16 it will result in a document.

17 Q.   Do you right now plan to supply that to the Court?

18 A.   Which?

19 Q.   Column 8, this hypothetical column 8?

20 A.   You mean in the form of a piece of paper? Or do you

21 mean --

22 Q.   Yes.

23 A.   I did supply what I thought were the basic results.

24 Q.   But in terms of redoing PX-400 right now you don't have

25 plans to physically add column 8; is that correct?

1 A.   I don't know. I haven't been asked to do it.

2 Q.   Before this case you had never written on supply and

3 demand factors in the office products industry; isn't that

4 correct?

5 A.   Yes.

6 Q.   And you had never studied any items that might be

7 considered office supplies; isn't that also correct?

8 A.   I think that's true.

9 Q.   You and I met at your deposition last Wednesday; isn't

10 that correct?

11 A.   Is that when it was? We did meet.

12 Q.   Yes. And it was at your deposition, wasn't it?

13 A.   And we met at my deposition; that's right.

14 Q.   And it was last Wednesday?

15 A.   Okay. I have forgotten now but if it was Wednesday, it

16 was Wednesday.

17 Q.   At the time of your deposition, you had no idea how many

18 SKUs were carried by the average Staples store did you?

19 A.   I didn't remember.

20 Q.   And you also didn't know how many SKUs were carried by

21 the competitors of Staples; isn't that correct?

22 A.   Yes.

23 Q.   Now, in working on this matter, isn't it correct that

24 your entire analysis of the merger, you've only looked at one

25 document concerning Staples pricing policies; isn't that

1   correct?

2   A.   I think that's correct, yes.

3   Q.   Dr. Ashenfelter, when we talked last Wednesday, you

4   couldn't remember if you'd ever been to a Staples store;

5   isn't that true?

6   A.   Yes.   I'm not sure.

7   Q.   And you've never been to Office Depot or an OfficeMax,

8   have you?

9   A.   I don't think I have.

10   Q.   Or a BJ's?

11   A.   I don't think I have.

12   Q.   You do shop at Sam's Club; isn't that correct?

13   A.   Yes, I do.

14   Q.   And Sam's carries office products; isn't that correct?

15   A.   I think it may.   I don't buy any there.

16   Q.   All right.   And have you asked any of the people around

17   you where they get office supplies; for instance, your

18   secretary at Princeton?

19   A.   Actually, I did ask after the deposition.

20   Q.   Because at the deposition I asked you that very

21   question.   What did your secretary tell you?

22   A.   She told me that the university has a contract with

23   somebody who supplies various things.

24   Q.   And who's that contract with, doctor?

25   A.   I don't know.

1   Q.   All right. Let's turn to your calculations. You had

2   testified earlier about PX-400. Now I received PX-400 at

3   11:00 p.m. last night. Let's go back in time. At your

4   deposition we had something called Ashenfelter Exhibit 2,

5   which I'm now showing you.

6   Now this is dated March 28, 1997; isn't it?

7   A.   Yes. I have a copy of that here. It will be easier if

8   you are -- are we just going to look at it or are we going to

9   go through the numbers.

10   Q.   I think we will do a little bit of both.

11   A.   May I try to dig it out? It was called Exhibit 2,

12   wasn't it?

13   Q.   Yes, sir.

14   A.   I may not be able to find it.

15   Q.   I think we can get you an extra copy?

16   A.   I have it right here.

17   THE COURT: Get him one, please. Thank you.

18   THE WITNESS: I have it right here. I'm pretty

19   sure of it. Yes. I have the same one here.

20   BY MR. GIDLEY:

21   Q.   Dr. Ashenfelter, isn't it true that columns 1 and 2 are

22   decimal versions of the percentages you report in your

23   pricing simulation now known as PX-400?

24   A.   Yes.

25   Q.   Now, columns 4, 5, and 6 have met with a different fate,

1   haven't they? In other words, these columns don't precisely

2   appear on the subsequent versions of this document, do they?

3   A.   I think that's right.

4   Q.   Now, column 5, isn't column 5 very similar to the result

5   you now call column 7, but it's numerically different; isn't

6   it?

7   A.   Yes.

8   Q.   All right. Last Saturday, I received a copy of

9   something called PX-157. Do you see that, Doctor?

10 A.   Now, that's -- yes, I do.

11 Q.   I received this Saturday afternoon; and it has seven

12 columns. Do you see that?

13 A.   Yes.

14 Q.   Do you have a copy with you?

15 A.   I think I have a copy right here in this book. Let me

16 just check and see.

17   MR. GIDLEY: Permission to approach?

18   THE COURT: Yes, sure.

19   THE WITNESS: I have it.

20   BY MR. GIDLEY:

21 Q.   Got it?

22 A.   Yes.

23 Q.   Doctor, I would like to show you what is the top results

24 of PX-157 contrasted with PX-400. We have a slide that just

25 takes the top of both charts, simply because we only have one

1   viewer. Do you see that?

2   A.   Yes. I think I can see that.

3   MR. GIDLEY: Permission to approach?

4   THE COURT: Yes.

5   THE WITNESS: Do you have a copy?

6   MR. GIDLEY: Yes, I do. It may be a little easier

7   to see.

8   THE COURT: Thank you.

9   BY MR. GIDLEY:

10   Q.   Now, Doctor, between Saturday afternoon and Monday at

11   11:00 p.m., this analysis changed, didn't it?

12   A.   Yes.

13   Q.   In fact, it changed in more than one column, didn't it?

14   A.   Yes.

15   Q.   If I can use this pen, we will go through it. Let's

16   see. Columns 1 and 2 are our old friends. We have talked

17   about those before. You testified to that in your direct,

18   and you had that in the March 28 document, didn't you?

19   A.   Yes. I think that's right.

20   Q.   Column 3 changed didn't it, Doctor?

21   A.   Yes.

22   Q.   The value in column 3 went from 2.9 percent to 2.5

23   percent; isn't that correct?

24   A.   Yes.

25   Q.   It went down, didn't it, Doctor?

1   A.   Yes, it did.

2   Q.   In column 4 the old number was 3.7 percent; isn't that

3   correct?

4   A.   Yes.

5   Q.   The new number in PX-400 from last night is now 3.3

6   percent; correct?

7   A.   Yes.

8   Q.   That number is lower isn't it?

9   A.   Yes, it is.

10   Q.   Again, column 5, the old number was 4.0 percent; is that

11   correct?

12   A.   Yes.

13   Q.   Now the new number is 3.6 percent, it is lower; isn't

14   it, Doctor?

15   A.   Yes, it is.

16   Q.   You said there were computational errors in 3, 4, and 5,

17   but I thought I also heard you said there were computational

18   errors in some of the other columns. Can you explain that?

19   A.   The only other -- there is an error -- there was an

20   error in the results underlying column 2; but the effect was

21   so small that it doesn't actually show up in this table. In

22   other words, you'd have to go to more decimal places before

23   you'd see anything. So in this table, it looks exactly the

24   same. But if you were to go to the computer output, it would

25   be ever so small a difference.

1   Q.   All right, Doctor.

2   A.   Those are the ones. The other ones don't change.

3   Q.   All right. So isn't it true that column 7 has not

4   changed, but all these other numbers have come down or they

5   are at 1 percent; isn't that correct at this point over the

6   last 72 hours?

7   A.   They have done what-- tell me again.

8   Q.   They have gone down or are at 1 percent, isn't that

9   correct? Everything but column 7?

10 A.   They have gone down or they are at --

11 Q.   Or they are at around 1 percent?

12 A.   Or they are around -- yes. That's correct.

13 Q.   Let's put up PX-400. Doctor, the first step you took

14 was to attempt to replicate the work of defendants'

15 econometrics expert Professor Hausman; isn't that correct?

16 A.   Yes.

17 Q.   And when, in fact, you reran Professor Hausman's

18 analysis you obtained pretty similar results, didn't you?

19 A.   Yes.

20 Q.   That analysis showed that closing all the Office Depot

21 stores would lead to a price increase of only about 1 percent

22 on Staples' pricing; isn't that correct?

23 A.   Yes.

24 Q.   In the second column, you used monthly data; isn't that

25 correct?

1   A.   Yes.

2   Q.   By substituting monthly data, you got a lower calculated

3   result; isn't that correct?

4   A.   A little lower, yes.

5   Q.   All right.   Columns 3, 4, and 5 of the May 20 version

6   relate to changing the competitor variable; isn't that

7   correct?

8   A.   Yes.

9   Q.   Now, Doctor Hausman used competitor variables that took

10 into account distance bands between the Staples store and the

11 competitor's store for which the effect was being measured,

12 didn't he?

13 A.   Yes, he did.

14 Q.   You on the other hand -- strike that.

15   Columns 3, 4, and 5 involved permutations of

16 incorporating an MSA-based competitor variable; isn't that

17 correct?

18 A.   Yes.

19 Q.   This new MSA-wide competitor data came from the FTC,

20 didn't it, Doctor?

21 A.   Yes.   All the data I have came from the FTC.   And from

22 the parties, I guess, originally.

23 Q.   So using this FTC competitor data, isn't it true the

24 opening of a Sam's Club 25 miles away from a Staples store is

25 treated exactly the same as the opening of a Sam's just one

1   mile away; isn't that correct, Doctor?

2   A.   It would have the same coefficient in either case, yes.

3   Q.   In other words, it would have the same result on this

4   simulation, isn't that correct, Doctor?

5   A.   The reason I'm thinking about it is because the -- it

6   depends on which simulation.

1   mile away; isn't that correct, Doctor?

2   A.   It would have the same coefficient in either case, yes.

3   Q.   In other words, it would have the same result on this

4   simulation, isn't that correct, Doctor?

5   A.   The reason I'm thinking about it is because the -- it

6   depends on which simulation.

7   Q.   Let's talk about --

8   A.   Maybe --

9   Q.   I'm sorry?

10   A..   I meant to say remember there's the coefficient -- it is

11   constrained to have the same effect on the simulation

12   coefficient. Are we talking about 5.

13   Q.   Let's talk about simulation 5 so we can be very

14   specific. Simulation five relates only to the MSA-based

15   competitor variable; correct?

16   A.   Yes.

17   Q.   In simulation five isn't it the case the opening of a

18   Sam's 25 miles away from a Staples store is treated exactly

19   the same as the opening of a new Sam's store just one mile

20   away; isn't that true?

21   A.   If it is in the same MSA it is, yes.

22   Q.   Doctor, let's turn your attention to column 6. In

23   column 6, you used a new pricing index, didn't you, Doctor?

24   A.   Well, it is basically the same price index, but it is

25   for a larger set of data.

1   Q.   Now, this is a recalculated price index of the Hausman

2   price index; isn't that correct, Doctor?

3   A.   Yes.

4   Q.   Now, Doctor you testified in direct examination that you

5   had recalculated the index; is that correct?

6   A.   No.   I didn't do it personally.

7   Q.   Isn't it the case that Dr. Susanne Gleason at the FTC

8   constructed your knew pricing index, didn't she?

9   A.   I'm not sure if it was -- I believe she was responsible,

10   but it could have been other FTC staff that assisted her.

11   Q.   But the new pricing index was calculated for you by the

12   FTC; correct?

13   A.   They did the computation, yes.

14   Q.   Now there are differences between the Hausman price

15   index and the recalculated price index; isn't that correct?

16   A.   There are some.   I testified about those.

17   Q.   And those differences remain unexplained in your words,

18   don't they?

19   A.   Yes.

20   Q.   Now --

21   A.   They are very small.

22   Q.   I'm sorry.

23   A.   I think I said earlier they were very small.   But there

24   are some that are larger.

25   Q.   You didn't know what specific products were included in

1   the FTC pricing index, did you?

2   A.   Well, I know they are the same products as Professor

3   Hausman used.

4   Q.   All right. But you didn't know what the products were

5   at the time of your deposition, did you, Doctor?

6   A.   I couldn't name them no.

7   Q.   In fact at the time of your deposition you didn't no

8   whether the FTC index was limited to office supplies or

9   included products from throughout the store, did you?

10 A.   That may be right. Yes.

11   MR. CARY: Object to the question with respect to

12 the term FTC index.   There has been no testimony about a FTC

13 index.

14   THE COURT: I'm taking it you are referring to the

15 one he testified to was given to him, the recalculated price

16 index.

17   Go ahead.

18   MR. GIDLEY: Yes.

19   THE WITNESS: What was the question? Do you

20 remember?

21 Q.   Let's have it read back.   I'll tell you what, I'll

22 restate it.

23   You didn't know what specific product -- strike

24 that.

25   You didn't know that the FTC index was limited to

1 office supplies or included the full store, did you?

2 A.   The -- Hausman -- I would have called it the Hausman

3 index. It is basically Hausman's index. I didn't recall

4 exactly what was in it, no.

5 Q.   Let's turn your attention to the seventh column. Isn't

6 it the case that column 7 has more than twice the simulated

7 pricing effect of column 6; isn't that correct?

8 A.   Yes.

9 Q.   Prior to column 7, you have no simulation that exceeds

10 3.7 percent; isn't that correct?

11 A.   Well, in this table, there are no others.

12 Q.   In this table. That's my question.

13 A.   This table is constructed so as to get you to why there

14 are differences.

15 Q.   On this table there is no simulated price change in

16 excess of 3.7 percent except column 7; is that correct?

17 A.   That's correct.

18 Q.   Directing your attention to the variable that changes in

19 column 7, it is the sample of stores included; isn't it,

20 Doctor?

21 A.   Yes.

22 Q.   Now, in column 7, you mixed in additional data from

23 stores in California, Pennsylvania, and elsewhere; isn't that

24 the case?

25 A.   Yes.

1   Q.   And that addition of those additional stores generates

2   this difference between the 8.6 percent up from the 3.7

3   percent; isn't that correct?

4   A.   That is correct.

5   Q.   So simply by adding these California, Pennsylvania, and

6   other stores, the total predicted price increase more than

7   doubled; isn't that correct?

8   A.   Yes.

9   Q.   When you did this analysis, you did not make a

10   determination, did you, that it would be appropriate to pool

11   the California and Pennsylvania data with the rest of the

12   data, did you, Doctor?

13   A.   I calculated an overall average effect; so I didn't do

14   any other calculations.

15   Q.   But, Doctor, did you make a determination as to whether

16   it was appropriate to pool California and Pennsylvania with

17   the data from other markets?

18   A.   I thought it was appropriate to pool the data together

19   for the purposes of the simulation, yes. I made a

20   determination of an overall average.

21   Q.   Doctor, page 56, line 10, question: "All right. In so

22   doing, did you make a determination as to whether it was

23   appropriate to pool California and Pennsylvania with the data

24   from other markets? Answer: No."

25   Did I ask that question at the deposition and did

1 you give that answer at the deposition?

2 A.   Yes. And I'll -- and I give the same answer. I did not

3 perform a Chow test but I did think it was appropriate to

4 simulate the overall effect.

5 Q.   Doctor, in fact, at the time that you gave the

6 testimony, isn't it correct that you testified that when you

7 did this analysis, you didn't think to do a Chow test?

8 A.   I'm not sure I did that, but I probably said something

9 like I didn't anticipate doing one. I didn't break the data

10 up into groups, no.

11 Q.   Directing your attention to page 163, line 9, "Question:

12 You mean why is there no Chow test, Exhibit 1? Question:

13 Correct.

14   "Answer: Well I didn't think to do one. I was

15 after an estimate of the relationship nationwide and so it

16 seemed natural to fit the model to the complete set of data."

17   Did we ask those questions and did you give those

18 answers?

19 A.   Yes. And that's the answer I gave now.

20 Q.   Doctor you never developed a specific theoretical model

21 before you began conducting your regressions in this case,

22 did you?

23 A.   No.

24 Q.   Before you began these regressions, did you develop a

25 theoretical model of the office products industry?

1   A.   No.

2   Q.   Let's talk about the time period in which this data is

3   based.   Dr. Ashenfelter, your pricing models are limited to

4   data from 1995 and part of 1996; isn't that correct?

5   A.   Yes.

6   Q.   And the models assume that competitors behave in the

7   same pattern now in 1997 that they did in 1995 and 1996;

8   isn't that correct?

9   A.   Yes, they do.

10   Q.   And the models in PX-400 assume that nothing in the

11   market changes except for the closing of Office Depot stores;

12   isn't that correct?

13   A.   Could you remind me what the PX -- is that PX-400?

14   Q.   Yes.   The slide up on the wall.

15   A.   Yes.   That's what they do assume.

16   Q.   They assume that nothing in the market changes except

17   for the closing of the Office Depot stores; isn't that

18   correct?

19   A.   Yes.

20   Q.   Dr. Ashenfelter, your simulations of price effects only

21   predict the one-shot price effects of the merger; isn't that

22   correct?

23   A.   Yes.

24   Q.   In other words, your model is not dynamic, is it,

25   Doctor?

1 A.   That's right.

2 Q.   Your models do not purport to take into account the

3 behavior of consumers after the merger in response to a price

4 rise, do they?

5 A.   Not if it is any different from what's already in the

6 results that are in the regressions now. Yes. That would be

7 correct.

8 Q.   Doctor, you had never calculated the demand elasticity

9 for office supplies in any particular MSA, had you?

10 A.   Yes, I did not.

11 Q.   And demand elasticity may be an important fact in

12 drawing an overall bottom line recommendation on whether to

13 approve or disapprove this merger; isn't that the case?

14 A.   I don't know.

15 Q.   Isn't it correct that the pricing model doesn't attempt

16 to model the future response of Staples competitors; isn't

17· that correct?

18 A.   It only includes -- the response that is in the data is

19 responses in the past. It doesn't include any attempt to

20 model Feuer responses.

21 Q.   If a competitor behaves differently in 1997 than they

22 did in 1996, that by definition would not be accounted for by

23 your models; would it, Doctor?

24 A.   Yes.

25 Q.   It would not be accounted for, would it?

1 A.   Yes.

2 Q. Or the possibility that a competitor might enter the

3 office supply delivery business in 1997 that wasn't

4 previously in that delivery business, that wouldn't be

5 accounted for by this model, would it, Doctor?

6 A.   Yes.

7 Q.   It would not be accounted for?

8 A.   Yes.

9   (Laughter)

10   BY MR. GIDLEY:

11 Q.   And if Staples -- yes, it would not have that effect;

12 right?

13 A.   Mr. Gidley knows what he's doing.

14   MR. KEMPF: I know.

15   (Laughter)

16   MR. KEMPF: Mr. Gidley does know what he's doing

17 and the only issue is to make the record clear that when you

18 say yes, you mean no. That's the only purpose.

19   (Laughter)

20   MR. KEMPF: When you're saying yes -- earlier you

21 were saying yes, I did not. Now you are leaving off the back

22 part of it. We just need to get the record clear.

23   THE COURT: I think also the record is saying it

24 would not be accounted for. The doctor is looking at the

25 question may be -- would it have been accounted for. His

1   answer then would be no.

2   THE WITNESS: If he asked a different question, I

3   would have changed the answer. You are right, Your Honor.

4   MR. KEMPF: Why don't we back up and do the last

5   two over again.

6   MR. GIDLEY: They are important.

7   BY MR. GIDLEY:

8   Q.   Doctor, if a competitor behaves differently in 1997 than

9   it did during the period of 1996 or 1995, that by definition

10   would not be included in this simulation model; isn't that

11   correct?

12   A.   Yes.

13   Q.   It would not be included; isn't that correct, Doctor?

14   A.   Yes.

15   (Laughter)

16   MR. GIDLEY: I think we've underscored that point.

17   (Laughter)

18   BY MR. GIDLEY:

19   Q.   Dr. Ashenfelter, you were never asked by the FTC to

20   consider whether this merger would be pro-competitive or

21   anti-competitive; isn't that true?

22   A.   Yes.

23   Q.   Isn't it also the case, Doctor, that the FTC never asked

24   you to study the synergies that would be created by the

25   merger?

1   A.   Yes.

2   Q.   Let's go back while we still have PX-400 up. We were

3   talking earlier about the MSA-based competitor variable.

4   Doctor, you live in New Jersey; is that correct?

5   A.   Yes.

6   Q.   Now, isn't it the case Totowa, New Jersey and Long

7   Island are contained in the New York MSA?

8   A.   I don't know.

9   Q.   All right. Do you know whether New Brunswick is part of

10   the New York MSA?

11   A.   I don't know.

12   Q.   Do you know whether it is part of some other MSA?

13   A.   I imagine it is, but I don't know.

14   Q.   All right.

15   A.   I should correct that. I imagine it is part of some

16   MSA. I'm sorry.

17   Q.   I imagine so, too, Doctor.

18   Let me direct your attention to the underlying

19   regression results. Doctor, isn't it true that in your

20   pricing simulations that you performed, you found that

21   non-office superstores had an impact on Staples pricing,

22   didn't you?

23   A.   Yes, I think that's true. In some cases.

24   Q.   Doctor, isn't it true that you have not concluded that

25   the relevant product market should be limited to OfficeMax,

1   Office Depot, and Staples?

2   A.   Yes.

3   Q.   In other words, Doctor, you have not concluded that the

4   relevant product market should be limited to those three

5   stores; is that correct?

6   A.   I haven't drawn any conclusion about that.

7   Q.   All right, Doctor. Let's talk about your specific

8   statistical results.

9   Isn't it the case that your analyses demonstrate

10 that Sam's Club, Office One, Wal-Mart, Best Buy, Computer

11 City, and Kmart all have a statistical impact on Staples

12 pricing?

13 A.   I think they do in some analyses. I don't remember

14 exactly which coefficients were significant and which ones

15 weren't.

16 Q.   Isn't it the case, Doctor, that the coefficients were

17 significant with a T value in excess of two for each of those

18 competitors?

19 A.   It could be.

20 Q.   Doctor, let me refer you back to your deposition, line

21 11, page 257.

22   "Question: All right. Can you read off" -- and I

23 was referring to your regression results behind the .082

24 simulation. "Answer: Well the significant competitor

25 variables here are Sam's Club, Best Buy and those are the two

1 main -- well let's see. That's in the logs. But it's also

2 correct -- it is a little hard to do this by the eye because

3 the correct test is the joint test on the dummy variable that

4 indicates the competitor as well as the number. So strictly

5 speaking, this is not a very rigorous by to do the test; but

6 I am going to judge by T values on that standard, Wal-Mart

7 and Office One are also competitors and Computer City, any of

8 the ones that have T values bigger than 2. One

9 interpretation is that they are significant variables and

10 would be considered as either competitors or stores that

11 bring in more trade."

12   Did I ask you that question and did you give that

13 answer at your deposition?

14 A.   Yes. That's probably the -- I don't have the output in

15 front of me to judge that, but that sounds like a good

16 summary of what the results were.

17 Q.   Directing your attention to the next page of the

18 transcript, page 258, question, at line 11, "My question is

19 Dr. Ashenfelter could you read off which competitors have T

20 values greater than two? Answer: The Depot, Sam's, Computer

21 City, Best Buy, Kmart. Did I mention Depot? I think I did.

22 Office One."

23   Finally directing your attention -- did I ask those

24 questions, Doctor, and did you give those answers?

25 A.   That sounds right, yes.

1   Q.   Finally directing your attention to the next page of the

2   transcript, line 14, page 259, "Question: Yes, please.

3   Answer: Let me give you the variables that are significant.

4   Depot, Sam's, Comp C, Best B.

5   "Question: That's Computer City and Best Buy?

6   Answer: Yes. Comp U, Kmart, Depot. I think we already said

7   Depot. Wal-Mart, Office One, Kmart. I think that's all the

8   ones where -- any one of the variables, either the dummy or

9   the level is bigger than 2."

10   Did I ask that -- those questions and did you give

11   those answers at your deposition?

12   A.   It sounds like it, yes.

13   Q.   Doctor, let's turn to your cost regression.

14   THE COURT: How much longer are you going to be?

15   Quite a while, I would think? I do have my --

16   MR. GIDLEY: Could be 10 minutes, Your Honor. We

17   may want to break at this unit. Is your obligation --

18   THE COURT: I have a 12:15 matter I have to take up

19   that's not here in court but in chambers.

20   I'm just going to have to recess and we will have

21   to come back after lunch then.

22   MR. KEMPF: Your Honor, may I raise one thing to

23   make sure we are okay on this. That there's not consultation

24   with the witness during the break while he's on cross.

25   THE COURT: All right. Mr. Cary.

1   MR. CARY: Whatever.

2   THE COURT: I think that's fair. They are almost

3   finished. If I could reschedule, I would finish it. Doctor,

4   you won't talk about your testimony during the luncheon

5   break. Thank you or staying around.

6   Be back at 1:30 today, please.

7   (Recess)

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2   CERTIFICATE

3   I, DENNIS A. DINKEL, Official Court Reporter,

4 certify that the foregoing pages, 1 through 103 are a correct

5 transcript from the record of proceedings in the

6 above-entitled matter.

7   _____

8   Dennis A. Dinkel

9 Date: _____

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