

\*\*\*\*\*ROUGH DRAFT\*\*\*\*\*

CASE NO: 19STCV27561  
CASE NAME: CREST V. PADILLA  
LOS ANGELES, CALIFORNIA THURSDAY, JANUARY 13, 2022  
DEPARTMENT 38 HON. MAUREEN DUFFY-LEWIS, JUDGE  
REPORTER: SANDRA GUERRA, CSR 10977  
APPEARANCES: (AS HERETOFORE NOTED.)  
TIME: MORNING SESSION

(THE FOLLOWING PROCEEDINGS WERE HELD IN  
OPEN COURT.)

THE COURT: WE DO HAVE THE WITNESS FROM  
YESTERDAY.

MR. STICHT: YES.

THE COURT: IF YOU WILL CALL HIM, PLEASE.

JONATHAN KLINK,  
A WITNESS CALLED BY THE PLAINTIFF, AFTER HAVING BEEN  
PREVIOUSLY DULY SWORN TO STATE THE TRUTH, THE WHOLE  
TRUTH AND NOTHING BUT THE TRUTH, TESTIFIED UNDER OATH AS  
FOLLOWS:

THE COURT: THANK YOU VERY MUCH. PLEASE HAVE A  
SEAT.

WE'RE NOW BACK ON THE RECORD IN THE MATTER THAT  
WE'RE CURRENTLY IN TRIAL ON. I'LL NOTE FOR THE RECORD  
THAT ALL COUNSEL ARE PRESENT AND THE WITNESS FROM

1 YESTERDAY HAS RETAKEN THE WITNESS STAND.

2 WOULD YOU PLEASE RESTATE YOUR NAME FOR THE  
3 RECORD?

4 THE WITNESS: JONATHAN KLINK.

5 THE COURT: AND DO YOU UNDERSTAND THAT YOU'RE  
6 STILL UNDER OATH AS PREVIOUSLY SWORN.

7 THE WITNESS: YES, YOUR HONOR.

8 THE COURT: THANK YOU VERY MUCH.

9 COUNSEL, YOU MAY CONTINUE.

10 MR. STICHT: THANK YOU. AND GOOD MORNING, YOUR  
11 HONOR.

12

13 DIRECT EXAMINATION (CONTINUED)

14 BY MR. STICHT:

15 Q. PROFESSOR KLINK, YESTERDAY WE TEASED A LITTLE  
16 BIT ABOUT PANEL STUDIES. WHY DON'T WE CONCLUDE BY  
17 STATING EXPLAINING WHAT A PANEL STUDY IS, HOW IT PLAYS  
18 INTO THIS METHODOLOGY OF STATISTICS THAT YOU GAVE US  
19 YESTERDAY.

20 A. SURE. SO PANEL DATA, OR SOMETIMES REFERRED TO  
21 AS LONGITUDINAL DATA, SIMPLY REFERS TO A DATA SET THAT  
22 HAS MULTIPLE OBSERVATIONS OVER TIME FOR A NUMBER OF  
23 DIFFERENT ENTITIES.

24 SO FOR EXAMPLE, IN THIS CONTEXT, ONE MIGHT  
25 STUDY A NUMBER OF FIRMS, CORPORATIONS, AND THEY HAVE,  
26 SAY, 10 YEARS OF DATA FOR EACH OF, SAY, 500 FIRMS, FOR A  
27 TOTAL NUMBER OF OBSERVATIONS OF IN THAT INSTANCE 5,000  
28 OBSERVATIONS.

1 PANEL DATA ARE A NECESSARY REQUIREMENT, A  
2 NECESSARY INPUT FOR ANY BEFORE-AND-AFTER TYPE STUDY. TO  
3 DO A BEFORE-AND-AFTER TYPE STUDY, SAY EITHER A REAL  
4 EXPERIMENT, A RANDOMIZED EXPERIMENT OR A NATURAL  
5 EXPERIMENT, ONE WOULD NEED TO HAVE, YOU KNOW, DATA FROM  
6 MULTIPLE TIME PERIODS, A BEFORE PERIOD AND AN AFTER  
7 PERIOD, FOR YOUR TREATMENT GROUP, AND THEN HAVE  
8 COMPARABLE DATA FOR ANY ENTITIES IN THE COMPARISON GROUP  
9 OR THE CONTROL GROUP.

10 THE VALUE OF PANEL DATA, OF HAVING THESE  
11 MULTIPLE OBSERVATIONS FOR EACH ENTITY, IF WE THINK BACK  
12 TO OUR DISCUSSION OF UNQUANTIFIABLE OR UNOBSERVABLE  
13 VARIABLES, IF WE MAKE AN ASSUMPTION -- AND AS I SAID  
14 YESTERDAY, ALL RESEARCH DESIGNS RELY ON SOME  
15 ASSUMPTIONS. IF WE MAKE THE ASSUMPTION THAT THOSE  
16 UNOBSERVABLE VARIABLES ARE CONSTANT OR THE EFFECT OF  
17 THOSE UNOBSERVABLE VARIABLES ARE CONSTANT OVER TIME,  
18 THEN IN SOME SENSE, THE BEFORE OBSERVATIONS FOR YOUR  
19 TREATMENT AND CONTROL GROUPS IMPLICITLY CONTROL FOR ANY  
20 FACTORS THAT ARE CONSTANT OVER TIME.

21 YOU SIMPLY PULL OUT THE BASELINE -- WHATEVER  
22 THE ENTITY STARTED AT IN TERMS OF THE OUTCOME, IF THAT  
23 WOULD BE REFLECTIVE OF THOSE UNOBSERVABLE VARIABLES, BY  
24 PULLING OUT THAT BASELINE. IF YOU HAVE THIS ASSUMPTION  
25 THAT THOSE UNOBSERVABLE EFFECTS ARE CONSTANT OVER TIME,  
26 YOU'VE ESSENTIALLY ELIMINATED THE EFFECT OF THOSE  
27 UNOBSERVABLE VARIABLES.

28 AND SO THAT'S IN PRINCIPLE THE MAIN VALUE TO

1 USING LONGITUDINAL DATA. THERE ARE SOME TECHNICAL  
2 THINGS THAT YOU NEED TO DO TO EFFECTUATE THAT, BUT  
3 THAT'S THE INTUITIVE ATTRACTION TO PANEL DESIGNS.

4 Q. INTUITIVE ATTRACTION BY RESEARCHERS?

5 A. SURE. THAT'S CORRECT.

6 Q. ARE THE BASELINE OF THE 500 COMPANIES ALWAYS  
7 THE SAME?

8 A. BECAUSE YOU'VE GOT MULTIPLE COMPANIES, YOU CAN  
9 PULL OUT SEPARATE BASE LINES FOR EACH. THAT'S THE  
10 BEAUTY OF HAVING MULTIPLE OBSERVATIONS FOR EACH ENTITY.

11 Q. NOW, I BELIEVE YOU STATED YOU STILL NEED SORT  
12 OF A NATURAL EXPERIMENT TO MAKE A PANEL STUDY USEFUL.

13 A. CORRECT.

14 Q. OR RELIABLE.

15 A. CORRECT.

16 SO IF WE GO BACK TO THIS ASSUMPTION THAT THE  
17 UNOBSERVABLE CHARACTERISTICS ARE CONSTANT OVER TIME,  
18 THIS REALLY IS AN ASSUMPTION BY DEFINITION. WE CAN'T  
19 OBSERVE UNOBSERVABLE FACTORS, UNOBSERVABLE VARIABLES.  
20 THEREFORE WE CAN'T TEST THIS ASSUMPTION.

21 AND SO THE BENEFIT OF HAVING THIS NATURAL  
22 EXPERIMENT, THIS SHOCK, THIS QUASI-RANDOMIZATION, IS IT  
23 ALLOWS US TO SOMEWHAT RELAX THAT ASSUMPTION. IF WE  
24 REALLY BELIEVE THE SHOCK IS A RANDOMIZED SHOCK, IF THE  
25 UNOBSERVABLE EFFECTS WERE TO BE CHANGING OVER TIME, BUT  
26 WHICH ENTITIES, WHICH FIRMS IN THIS CASE ARE AFFECTED BY  
27 THE SHOCK IS UNRELATED TO THOSE CHANGES AND THOSE  
28 UNOBSERVABLE EFFECTS, THEN WE CAN STILL ISOLATE

1 CAUSALITY.

2 SO BY HAVING THE NATURAL EXPERIMENT, BY HAVING  
3 THE SHOCK, IT ALLOWS US TO SOMEWHAT RELAX THAT  
4 ASSUMPTION OF NO CHANGES IN THE UNOBSERVABLE EFFECTS  
5 OVER TIME.

6 Q. SO TO MAKE IT A LITTLE MORE CONCRETE, WHAT  
7 WOULD BE A DESCRIPTION OF BASELINE FOR THE 500 COMPANIES  
8 IN A CASE LIKE THIS?

9 A. SURE. SO IMAGINE WE WERE TRYING TO ESTIMATE  
10 SOMETHING ABOUT OUTCOMES IN TERMS OF STOCK RETURNS. AND  
11 IF WE THINK THAT THERE ARE SOME FIRMS THAT TEND TO HAVE  
12 LARGER RETURNS THAN OTHER FIRMS, BY HAVING A BASELINE WE  
13 CAN PULL THAT OUT.

14 IF WE SAY, LOOK, ACROSS THE ENTIRE DATA SET  
15 APPLE TENDS TO PERFORM AT A HIGHER RETURN THAN THE OTHER  
16 FIRMS, WE PULL THAT OUT. IF IT PREEXISTS -- IMAGINE  
17 APPLE IS ONE OF THE TREATMENT FIRMS THAT GETS HIT BY A  
18 SHOCK -- IF THAT HIGHER RETURN ALREADY PRECEDED WHATEVER  
19 THE SHOCK WAS, PRESUMABLY THE FACT THAT APPLE HAS A  
20 HIGHER RETURN ISN'T DUE TO THE SHOCK OR ISN'T DUE TO THE  
21 TREATMENT. IT'S SOMETHING IN THE BASELINE ALREADY.

22 Q. AND HOW LIKELY IS IT THAT YOU COULD INCUR A  
23 NATURAL EXPERIMENT OR SHOCK IN A STUDY LIKE THAT WITHIN  
24 A LIMITED TIME FRAME SUCH AS PRESENTED HERE?

25 A. IN OTHER WORDS, SB-826 IS PASSED, YOU KNOW, AND  
26 THEN WE'RE LIKE THREE OR FOUR YEARS LATER.

27 SO, FOR EXAMPLE, WE STARTED DISCUSSING A STUDY  
28 YESTERDAY FROM THE 2020 "JOURNAL OF CORPORATE FINANCE,"

1 GREEN, ET AL., THAT USED SORT OF THIS EVENT STUDY --  
2 STOCK MARKET RETURN METHODOLOGY, WHICH IS A NATURAL  
3 EXPERIMENT-TYPE METHODOLOGY.

4 AND IN THAT INSTANCE, WITHIN CALIFORNIA THEY  
5 TREATED THE TREATMENT GROUP AS THOSE FIRMS THAT NEEDED  
6 TO ADD MANY MORE WOMEN AS OPPOSED TO FIRMS THAT WERE  
7 ALREADY IN COMPLIANCE OR NEAR COMPLIANCE.

8 SO THAT WAS THE TREATMENT AND CONTROL, THE IDEA  
9 BEING THAT SB-826 WAS ESSENTIALLY A SHOCK TO THE NUMBER  
10 OF WOMEN ON THE BOARD. AND THEN TO ACCOUNT FOR OTHER  
11 THINGS THAT MIGHT HAVE BEEN HAPPENING IN CALIFORNIA AT  
12 THE TIME, YOU HAVE THESE OTHER FIRMS, ALTHOUGH THEY'RE  
13 NOMINALLY AFFECTED BY SB-826. BECAUSE THEY ALREADY HAD  
14 A SUFFICIENT NUMBER OF WOMEN, OR CLOSE TO A SUFFICIENT  
15 NUMBER OF WOMEN ON THEIR BOARDS, THEIR BEHAVIOR IS LESS  
16 CHANGED, ARGUABLY.

17 SO THAT WOULD BE AN EXAMPLE IN THAT CONTEXT.  
18 BUT -- BUT YOU'RE RIGHT. IF ONE WANTED TO LOOK AT --  
19 THAT WOULD BE SORT OF MARKET EVALUATION OR MARKET  
20 EXPECTATION. IF ONE WANTED TO LOOK AT LONGER TERM  
21 CHANGES, IT WOULD BE RELATIVELY HARD TO DO SO IN SUCH A  
22 SHORT TIME PERIOD.

23 Q. SO THE OUTCOME MIGHT BE THE REAL TRICK, RIGHT?

24 A. I DON'T KNOW THAT I WOULD QUITE PUT IT THAT  
25 WAY. WHAT I WOULD SAY IS THERE ARE SOME OUTCOMES THAT  
26 WOULD BE MORE AMENABLE TO A SHORT TIME PERIOD AND SOME  
27 OUTCOMES THAT MIGHT BE LESS AMENABLE TO SUCH ANALYSIS.

28 Q. THAT'S FAIR. OKAY.

1 DO WE NEED ANY FURTHER LESSON FROM YOU ON PANEL  
2 STUDIES BEFORE WE MOVE FORWARD?

3 A. I SUPPOSE I MIGHT NOTE WHEN I SAID EARLIER THAT  
4 THERE ARE SOME TECHNICAL THINGS THAT ONE ACTUALLY HAS TO  
5 DO TO ESSENTIALLY EXPLOIT THE PANEL NATURE OF THE  
6 DATA -- SO YOU BROUGHT UP ONE. YOU NEED TO HAVE A REAL  
7 SHOCK SO YOU HAVE THIS TREATMENT AND CONTROL SEPARATION.

8 THE WAY THESE PANEL DATA STUDIES ARE  
9 IMPLEMENTED ARE IN WHAT ARE CALLED FIXED EFFECTS  
10 STUDIES. SO ESSENTIALLY WHEN THAT TERM OF ART IS USED,  
11 WHAT A FIXED EFFECT STUDY DOES IS IT -- ESSENTIALLY IN  
12 THE CONTEXT OF, SAY, A DATA SET THAT HAS 500 FIRMS OVER  
13 10 YEARS, A FIXED EFFECT STUDY WOULD INCLUDE INDIVIDUAL  
14 VARIABLES FOR EACH FIRM, RIGHT.

15 SO IN THE EARLIER EXAMPLE WE WOULD LITERALLY IN  
16 THE REGRESSION HAVE AN APPLE VARIABLE THAT WOULD  
17 ESSENTIALLY ONLY TAKE THE VALUE OF 1 FOR THE APPLE  
18 OBSERVATIONS AND TAKE THE VALUE OF ZERO FOR ALL THE  
19 REST.

20 AND BY CODING -- AND INCLUDING THIS FIXED  
21 EFFECTS IN THE REGRESSION, THAT'S HOW YOU PULL OUT OR  
22 ESSENTIALLY ACCOUNT OR ADJUST FOR APPLE'S BASELINE. YOU  
23 WOULDN'T JUST DO IT FOR APPLE. YOU WOULD HAVE ONE OF  
24 THESE VARIABLE FOR EACH FIRM. SO THAT WOULD BE ONE SET  
25 OF FIXED EFFECTS IN THE MODEL.

26 THE OTHER SET OF FIXED EFFECTS IN THE MODEL  
27 WOULD BE TIME PERIOD FIXED EFFECTS.

28 SO FOR EXAMPLE, IF WE HAD DATA IN OUR STUDY

1 FROM 2000 TO 2010, THERE WOULD BE A YEAR 2000 VARIABLE.  
2 AND SO FOR EACH FIRM'S 2000 OBSERVATION, WE TAKE THE  
3 VALUE OF 1, AND THEN FOR EVERY FIRM'S NON YEAR 2000  
4 OBSERVATION, WE TAKE THE VALUE OF ZERO.

5 AND ESSENTIALLY WHAT THOSE FIXED EFFECTS -- IT  
6 MIGHT BE CALLED PERIOD FIXED EFFECTS OR TIME FIXED  
7 EFFECTS -- ESSENTIALLY WHAT THOSE DO IS THOSE ALLOW THE  
8 REGRESSION TO ALLOW FOR GENERIC DIFFERENCES THAT ARE  
9 EXPERIENCED ACROSS ALL FIRMS IN THAT TIME PERIOD.

10 SO IN MY EXAMPLE OF HAVING A DATA SET BETWEEN  
11 2000 AND 2010, WE ALL KNOW THAT THE STOCK MARKET TANKED  
12 IN 2007.

13 SO ALL THE FIRMS PRESUMABLY WOULD BE AFFECTED  
14 TO SOME EXTENT BY THE STOCK MARKET TROUBLES. AND SO YOU  
15 WOULD WANT TO PULL THAT OUT, BECAUSE THAT WOULD LARGELY  
16 BE INDEPENDENT OF ANY PARTICULAR CHARACTERISTIC OF ANY  
17 GIVEN FIRM, AND SO YOU WOULD LIKE TO PULL THAT EFFECT  
18 OUT.

19 ESSENTIALLY WHAT THESE TIME PERIOD FIXED  
20 EFFECTS ALLOW YOU TO DO IS ACCOUNT FOR BACKGROUND  
21 TRENDS, AND BACKGROUND TRENDS IN A TOTALLY NONPARAMETRIC  
22 WAY. SO IF WE THINK OF TRENDS, OFTEN WE THINK OF LINEAR  
23 TRENDS, BUT THAT MIGHT BE TOO RESTRICTIVE.

24 THE 2000 EXAMPLE -- I'M SORRY, 2007 EXAMPLE,  
25 STOCK MARKET GOES BACK DOWN FOR A COUPLE OF YEARS AND IT  
26 STARTS GOING UP AGAIN. SO IF WE HAD JUST ONE GENERIC  
27 TREND, WE WOULD MISS THAT ACTION. BUT BY HAVING THE  
28 TIME PERIOD FIXED EFFECTS, WHAT WE WOULD BE ABLE TO DO

1 IS -- SO FOR EARLIER YEARS, ALL THE FIRMS SEEMINGLY ARE  
2 DOING BETTER, 2007, 2008, FIRMS ALL DO SORT OF WORSE,  
3 AND THEN WE HAVE SORT OF A RECOVERY IN, SAY, 2009, 2010.

4 AND SO THESE TIME PERIOD FIXED EFFECTS WOULD  
5 ACCOUNT FOR THE BACKGROUND TREND IN A TOTALLY FLEXIBLE  
6 WAY. AND SO THAT'S HOW THESE MODELS -- IF THEY'RE DONE  
7 CORRECTLY AND IF YOU'RE FULLY EXPLOITING THE PANEL DATA  
8 NATURE OF THE STUDY, THE STUDIES WOULD INCLUDE THESE  
9 FIXED EFFECTS.

10 Q. CARRYING THAT ONE STEP FURTHER, SINCE YOU  
11 BROUGHT UP THE 2007 CRISIS AND THE RECOVERY STARTING IN  
12 2009, THERE WAS, CORRECT, AN INJECTION OF CAPITAL THAT  
13 WAS DEEMED NECESSARY BY OUR GOVERNMENT IN ORDER TO  
14 STABILIZE THE ECONOMY AS A RESULT OF THAT EFFECT.

15 DO YOU AGREE WITH THAT?

16 A. THAT'S CORRECT.

17 Q. WHAT ROLE, IF ANY, WOULD THAT PLAY IN THAT 2000  
18 TO 2010 DISCUSSION?

19 A. SO TO THE EXTENT THAT THOSE STABILIZING FUNDS  
20 WERE GENERICALLY HELPFUL TO THE ECONOMY, THEY WOULD GET  
21 PICKED UP IN, SAY, THE 2009, 2010 PERIOD FIXED EFFECTS.

22 NOW, TO THE EXTENT THAT SOME OF THE CAPITAL IS  
23 TARGETED, SAY THE GOVERNMENT BAILOUTS IN PARTICULAR  
24 INDUSTRIES OR SOMETHING LIKE THAT, THAT WOULD NOT BE  
25 GETTING ACCOUNTED FOR IN THOSE GENERIC TIME PERIOD  
26 EFFECTS.

27 THOSE GENERIC TIME PERIOD EFFECTS ARE PULLING  
28 OUT, IF YOU WILL, THE TIME PERIOD BASELINE; WHATEVER IS

1 SORT OF IN GENERAL OR IN COMMON ACROSS ALL OF THE  
2 ENTITIES OCCURRING IN A PARTICULAR TIME PERIOD.

3 Q. SO ACCEPTING YOUR PREMISE THAT THE 2007  
4 FINANCIAL CRISIS CAUSED AN ACROSS THE BOARD IMPACT, A  
5 FIXED EFFECT, THE BAILOUT OF THE AUTO INDUSTRY TO  
6 PREVENT IT FROM GOING INTO BANKRUPTCY WOULD ONLY AFFECT  
7 THAT PARTICULAR INDUSTRY?

8 A. THAT MIGHT BE TOO RESTRICTIVE. IF WE THINK  
9 THAT THERE ARE, YOU KNOW, MULTIPLIER EFFECTS AND THINGS  
10 OF THAT NATURE, IT SORTS OF DEPENDS ON YOUR VIEW OF HOW  
11 THE MACRO ECONOMY WORKS. BUT I GUESS WHAT I WOULD SAY  
12 IS ALMOST SURELY THE AUTO INDUSTRY WOULD BE MORE  
13 EFFECTIVE, AND SO THAT WOULDN'T BE PART OF THE COMMON  
14 EFFECT THERE.

15 AND SO IN YOUR MODEL, ONE WOULD WANT TO ACCOUNT  
16 FOR THAT SEPARATELY. AND ONE COULD -- IF YOU HAD, SAY,  
17 MULTIPLE AUTO FIRMS IN THE DATA, YOU COULD PERHAPS PUT  
18 IN AN INDIVIDUAL CONTROL FOR THE FIRMS TARGETED BY THOSE  
19 PARTICULAR BAILOUTS.

20 Q. AND JUST ONE FURTHER POINT ABOUT THAT. THERE  
21 WAS SOMEWHAT OF A BAILOUT OF, I THINK IT WAS COUNTRYWIDE  
22 AT THAT TIME BECAUSE COUNTRYWIDE HAD UNDERWRITTEN ALL  
23 THOSE MORTGAGE LOANS, WHICH WERE THEN PUT OUT ON THE  
24 MARKET AND THEY DEFAULTED?

25 A. SURE.

26 Q. IS THAT A FIXED EFFECT OR IS THAT AGAIN  
27 SOMETHING THAT'S NOT COMMON?

28 A. SO IT CERTAINLY WOULDN'T BE COMMON ACROSS THE

1 ENTIRE -- YOU KNOW, THE ENTIRE DATA SET. UNLESS -- I  
2 GUESS TO THE EXTENT THAT THE SECURITIZED MORTGAGES AND  
3 WHATNOT HAD SYSTEMIC EFFECTS, SO THERE MIGHT BE THAT  
4 GENERIC PART OF THE MARKET, BUT THERE WOULD BE  
5 PARTICULAR EFFECTS IN PARTICULAR INDUSTRIES AND THEN  
6 THERE MIGHT BE SORT OF SOME RIPPLE EFFECTS IN OTHER  
7 INDUSTRIES.

8 AND SO THOSE WOULDN'T BE COMMON ACROSS THE  
9 ENTIRE DATA SET. SO ONE WOULD NEED TO ACCOUNT FOR THOSE  
10 SEPARATELY.

11 Q. COMING BACK TO THE CONCRETE FACTS OF THIS CASE,  
12 LIKE A SHOCK FROM SB-826, THAT SHOCK REALLY WOULD ONLY  
13 AFFECT, FOR PURPOSES OF A MODEL, CALIFORNIA  
14 HEADQUARTERED PUBLICLY HELD CORPORATIONS, RIGHT?

15 A. CORRECT.

16 Q. WE WOULDN'T LOOK NATIONWIDE TO DO THAT KIND OF  
17 A STUDY?

18 A. NO, THAT WOULDN'T BE THE NORMAL APPROACH.

19 Q. OKAY. ANYTHING FURTHER ON PANEL STUDIES?

20 A. I GUESS I HESITATE BECAUSE THIS GETS PERHAPS  
21 EVEN MORE TECHNICAL. WHEN WE TALKED YESTERDAY ABOUT  
22 STATISTICAL SIGNIFICANCE AND UNCERTAINTY IN THE DATA AND  
23 IN THE ESTIMATES, I SORT OF SAID THAT STATISTICAL  
24 SIGNIFICANCE GIVES YOU A WAY TO MEASURE ESSENTIALLY THE  
25 UNCERTAINTY OF YOUR ESTIMATES.

26 ALL OTHER THINGS EQUAL -- ALL OTHER THINGS  
27 EQUAL IN STATISTICAL MATTERS, MORE DATA ARE BETTER.  
28 MORE DATA ALLOW FOR MORE PRECISE ESTIMATES, ESTIMATES

1 THAT HAVE LESS UNCERTAINTY. SO YOU MIGHT THINK OR ONE  
2 MIGHT THINK THAT FOR PANEL DATA STUDIES, SINCE YOU'VE  
3 GOT MULTIPLE OBSERVATIONS FOR EACH ENTITIES, YOU THINK,  
4 WELL, GREAT, THAT'S A LOT MORE DATA.

5 THERE'S A PROBLEM. OUR STATISTICAL RESULTS  
6 ABOUT MORE DATA LEADING TO MORE PRECISION OR LESS  
7 UNCERTAINTY RELY ON WHAT WE MIGHT THINK OF AS  
8 INDEPENDENT DATA POINTS.

9 SO WHEN WE HAVE A STUDY THAT HAS 5,000 DATA  
10 POINTS, IF THOSE ARE INDEPENDENT DATA POINTS, THAT MIGHT  
11 BE A PRETTY BIG STUDY, BUT IF WE HAVE A PANEL DATA STUDY  
12 THAT HAS 10 DATA POINTS FOR EACH OF 500 FIRMS, THERE IS  
13 SOME QUESTION AS TO WHETHER THAT'S EQUIVALENTLY 5,000  
14 DATA POINTS OR IS IT REALLY SOMETHING CLOSER TO JUST 500  
15 DATA POINTS WHEN WE WORRY ABOUT THIS LACK OF  
16 INDEPENDENCE.

17 AND SO STATISTICIANS AND APPLIED  
18 ECONOMETRICIANS NEED TO MAKE ADJUSTMENTS IN THE WAY THAT  
19 THEY CALCULATE STATISTICAL SIGNIFICANCE IN THAT  
20 INSTANCE.

21 IN ECONOMICS, THE GENERAL APPROACH IS TO USE  
22 WHAT ARE CALLED CLUSTER STANDARD ERRORS. IT'S  
23 ESSENTIALLY A WAY TO BUILD INTO THE MODEL THE FACT THAT  
24 YOUR OBSERVATION FOR APPLE IN THE YEAR 2000 IS NOT  
25 WHOLLY INDEPENDENT FOR YOUR OBSERVATION OF APPLE IN THE  
26 YEAR 2001 AND 2002, AND SO ON AND SO FORTH.

27 SO IT'S ESSENTIALLY A WAY TO ACCOUNT FOR THIS  
28 LACK OF INDEPENDENCE. AND SO THAT'S AN IMPORTANT THING

1 TO DO BECAUSE IF YOU DON'T ACCOUNT FOR THIS, YOU RUN THE  
2 RISK OF PRESUMING -- OR PRESENTING YOUR ESTIMATES AS  
3 BEING MUCH MORE CERTAIN OR MUCH LESS UNCERTAIN THAN THEY  
4 ACTUALLY ARE, BECAUSE EFFECTIVELY YOU DON'T HAVE AS MUCH  
5 INFORMATION AS YOU WOULD HAVE HAD HAD YOU HAD TRULY  
6 5,000 INDEPENDENT DATA POINTS.

7 Q. VERY INTERESTING.

8 ALL RIGHT. ANYTHING FURTHER?

9 A. I BELIEVE THAT'S IT.

10 Q. OKAY. SO LET ME ASK YOU THIS, SORT OF BEYOND  
11 THE LESSON A LITTLE BIT NOW, TO TRANSITION.

12 TELL US ABOUT THE DIFFERENCE BETWEEN  
13 CONSULTANCY STUDIES AND ACADEMIC STUDIES.

14 A. SO I SUPPOSE AT ONE LEVEL THEY NEED NOT BE  
15 DIFFERENT. THEY COULD BE USING SORT OF SIMILAR METHODS  
16 AND COMPARABLE LEVELS OF ANALYSIS.

17 BUT IN PRACTICE THEY OFTEN AREN'T. AND I  
18 SUPPOSE THERE ARE MANY REASONS FOR THAT. THE AUDIENCES  
19 ARE OFTEN DIFFERENT. SO IF I WRITE A PAPER FOR AN  
20 ACADEMIC AUDIENCE IN AN ACADEMIC JOURNAL, THERE'S A  
21 PRESUMED LEVEL OF METHODOLOGICAL SOPHISTICATION, SO I  
22 CAN PRESENT MORE SOPHISTICATED MODELS, THINGS OF THAT  
23 NATURE.

24 CONSULTANCY STUDIES OFTEN HAVE A DIFFERENT  
25 AUDIENCE, WHETHER IT BE THE CLIENT OR SOME OTHER KIND OF  
26 STAKEHOLDERS THAT HAVE A MUCH DIFFERENT SET OF  
27 BACKGROUNDS. AND SO YOU OFTEN SEE CONSULTANT STUDIES AS  
28 BEING MUCH LESS SOPHISTICATED METHODOLOGICALLY FOR SURE,

1 AND SOMETIMES THAT LACK OF SOPHISTICATION ACTUALLY  
2 TRENDS INTO SORT OF A LACK OF RELIABILITY.

3 Q. SO A NONPARTISAN THINK TANK IN D.C., WOULD THEY  
4 BE IN THE CONSULTANCY OR IN THE ACADEMIA CATEGORY?

5 A. SO THINK TANKS I SUPPOSE SOMETIMES STRADDLE  
6 BOTH WORLDS. THERE ARE THINK TANKS IN WASHINGTON BOTH  
7 ON THE PROGRESSIVE SIDE AND THE MORE CONSERVATIVE SIDE.  
8 SO BROOKINGS IF WE WERE LOOKING FOR A MAINSTREAM SORT OF  
9 LEFT TO CENTER THINK TANK, OR AMERICAN ENTERPRISE  
10 INSTITUTE IS A MAINSTREAM SORT OF RIGHT OF CENTER  
11 INSTITUTE.

12 THEY OFTEN HAVE ACADEMICS EITHER WORKING PART  
13 TIME FOR THEM OR WORKING AS FELLOWS FOR THEM WHO WILL  
14 CONTINUE TO WRITE ACADEMIC ARTICLES FOR ACADEMIC  
15 AUDIENCES, BUT ALSO SOMETIMES THOSE SAME PEOPLE, BUT  
16 SOMETIMES DIFFERENT PEOPLE IN THE THINK TANKS WILL THEN  
17 ALSO WRITE THINGS TO TARGET DIFFERENT AUDIENCES WITH  
18 LOWER LEVELS OF SOPHISTICATION METHODOLOGICALLY. SO I  
19 THINK IN THINK TANKS YOU OFTEN GET SORT OF A RANGE IN  
20 THIS SPACE.

21 Q. IS THERE A DIFFERENCE IN THE OBJECTIVITY OF THE  
22 HYPOTHESIS THAT IS PRESENTED FOR SOME OF THESE ARTICLES  
23 THAT MAY COME OUT OF A CONSULTANT VERSUS ACADEMIA?

24 A. I DON'T KNOW NECESSARILY THE OBJECTIVITY OF THE  
25 HYPOTHESIS, BUT PERHAPS THE LEVEL OF SCRUTINY OF THE  
26 ANALYSIS MIGHT WELL BE DIFFERENT.

27 JUST AS A SIMPLE INDICATOR, TODAY IN ECONOMICS  
28 A STANDARD POLICY EVALUATION ARTICLE MIGHT BE 50 PAGES

1 LONG. A CONSULTANCY OR EVEN OFTENTIMES A THINK TANK  
2 WITH THEIR MORE GENERAL PUBLIC-FACING STANCES IN GENERAL  
3 WOULDN'T PUBLISH SOMETHING THAT WAS 50 PAGES LONG. OR  
4 IF IT WERE 50 PAGES LONG, MANY OF THOSE PAGES WOULD BE  
5 JUST BIG PICTURES OF PEOPLE SMILING OR IN BUSINESS SUITS  
6 AND THINGS OF THAT NATURE.

7 SO THAT'S JUST ONE INDICATOR. THE REASON THE  
8 ACADEMIC ARTICLE IS MUCH LONGER IS OFTEN BECAUSE THERE'S  
9 A MUCH GREATER SCRUTINY OF THE EVIDENCE.

10 SO MULTIPLE APPROACHES TAKEN OR MULTIPLE TESTS  
11 PROVIDED, MUCH GREATER -- THERE'S ANOTHER DIFFERENCE --  
12 MUCH GREATER DISCUSSION, MUCH MORE DIDACTIC DISCUSSION  
13 OF THE METHODS INVOLVED. IN GENERAL IT WILL BE MUCH  
14 MORE COMPLETE IN AN ACADEMIC ARTICLE THAN IN A  
15 CONSULTANCY ARTICLE.

16 JUST TO GIVE ONE INDICATION, THE WAY MANY OF US  
17 TEACH OUR STUDENTS IN, SAY, ECONOMICS, AND CERTAINLY THE  
18 WAY THAT I WAS TAUGHT, THE BASIC APPROACH WAS, YOU KNOW,  
19 WE'RE DIRECTED TO WRITE AN ARTICLE SUCH THAT SOMEONE  
20 COULD -- SOMEONE WHO HAD THE REQUISITE SKILLS COULD PICK  
21 IT UP AND ESSENTIALLY REPRODUCE YOUR WORK.

22 WELL, IN ORDER TO GET TO THAT LEVEL YOU'VE GOT  
23 TO HAVE QUITE A LOT OF DISCUSSION OF WHAT YOU'VE DONE.  
24 YOU ALMOST NEVER FIND THAT LEVEL OF DISCUSSION IN  
25 CONSULTANCY REPORTS.

26 Q. ARE YOU FAMILIAR WITH A FIRM KPMG?

27 A. I AM.

28 Q. IS KPMG IN THE CONSULTANCY OR THE ACADEMIC

1 CATEGORY?

2 A. IT WOULD BE ENTIRELY IN THE CONSULTANCY  
3 CATEGORY.

4 SO A FIRM LIKE KPMG OR, YOU KNOW,  
5 PRICEWATERHOUSECOOPERS, OR ANY OF THE CONSULTING ARMS  
6 OF, SAY, THE ACCOUNTING FIRMS, THE MAIN THING THEIR  
7 CONSULTING ARMS ARE DOING IS THEY'RE TRYING TO SELL  
8 THEIR BRAND. THEY'RE TRYING TO SELL SERVICES TO CLIENTS  
9 AND THINGS OF THAT NATURE.

10 Q. NOW, THIS MAY BE AN IMPROPER OR UNFAIR  
11 QUESTION, BUT WHAT ABOUT A DATA COLLECTOR LIKE EQUILAR.  
12 DO THEY FALL IN ONE OR ONE ANOTHER CATEGORIES?

13 A. SO A DATA COLLECTOR LIKE EQUILAR, IT'S HARD TO  
14 SAY AS A GENERIC ANSWER.

15 THERE ARE SOME DATA COLLECTION FIRMS THAT ARE  
16 IN SOME SENSE NOT SELLING ANYTHING. THEY EXIST AS SOME  
17 BENCHMARK OR JUST GENERAL DATA PROVIDER. BUT THERE ARE  
18 SOME -- THERE ARE SOME FIRMS THAT PROVIDE DATA, THAT  
19 WHILE THEY PROVIDE DATA ON THE ONE SIDE, THEY ALSO  
20 PROVIDE CONSULTING SERVICES ON THE OTHER SIDE IN TERMS  
21 OF, FOR EXAMPLE, TELLING FIRMS, HEY, THIS IS HOW WE CAN  
22 GET YOUR PERFORMANCE THAT WE'RE MEASURING WITH YOUR DATA  
23 TO BE BETTER.

24 AND SO THERE IS SORT OF A BACK AND FORTH  
25 BETWEEN THE DIFFERENT FUNCTIONS OF FIRMS LIKE THAT.

26 Q. WELL, ALL RIGHT. LET'S TRY TO PUT SOME MEAT ON  
27 THE SKELETON OF THE CLASS YOU'VE GIVEN US. APPRECIATE  
28 IT, PROFESSOR KLICK.

1           WOULD YOU PLEASE TURN IN THE BLACK BINDER IN  
2 FRONT OF YOU TO EXHIBIT 12.

3           AFTER YOU'VE HAD A CHANCE TO LOOK AT THAT  
4 EXHIBIT, ARE YOU FAMILIAR WITH WHAT IT IS?

5           A.    YES, IT'S THE TEXT OF SENATE BILL 826.

6           Q.    WOULD YOU PLEASE TAKE A LOOK AT PAGE TWO, WHICH  
7 WOULD BE SECTION 1(C), AND PLEASE JUST READ THE LEADING  
8 THREE LINES.

9           A.    (READING:)

10           "NUMEROUS INDEPENDENT STUDIES HAVE  
11 CONCLUDED THAT PUBLICLY HELD COMPANIES  
12 PERFORM BETTER WHEN WOMEN SERVE ON  
13 THEIR BOARDS OF DIRECTORS, INCLUDING:  
14           ..."

15           Q.    AND THERE ARE THERE A SERIES OF STUDIES THAT  
16 ARE SUBNUMBERED ONE, ET SEQ., CORRECT?

17           A.    CORRECT.

18           Q.    HAVE YOU HAD AN OPPORTUNITY IN THIS CASE TO  
19 REVIEW THE STUDIES THAT ARE LISTED UNDER THAT SUB  
20 PARAGRAPH (C)?

21           A.    I HAVE.  YES.

22           Q.    AND HAVE YOU PERFORMED YOUR ANALYSIS AS A  
23 PROFESSOR AND EXPERT IN THESE MODELING OR METHODOLOGIES  
24 THAT YOU'VE TAUGHT US ON THESE STUDIES?

25           A.    YES, I'VE READ THEM AND FORMED MY VIEWS OF  
26 THEM, YES.

27           Q.    ALL RIGHT.  SO LET'S SHARE THOSE VIEWS WITH THE  
28 COURT, IF YOU WILL.

1 LET'S TURN TO EXHIBIT 44, I BELIEVE IT IS.

2 EXCUSE ME, 244.

3 ARE YOU FAMILIAR WITH THAT EXHIBIT, PROFESSOR?

4 A. I AM.

5 Q. AND IS THAT THE FIRST STUDY LISTED ON PAGE TWO  
6 OF EXHIBIT 12, SB-826?

7 A. YES, IT IS.

8 Q. AND SO CAN YOU TELL US ABOUT MSCI FIRST?

9 MR. SEFERIAN: OBJECTION, LACKS FOUNDATION.  
10 BY MR. STICHT:

11 Q. ARE YOU AWARE OF MSCI?

12 THE COURT: SUSTAINED. YOU MAY PROCEED AGAIN.

13 BY MR. STICHT:

14 Q. ARE YOU AWARE OF MSCI?

15 A. JUST THROUGH MY READING OF THIS REPORT.

16 Q. AND WHAT IS THE CONCLUSION THAT IS GENERALLY  
17 REACHED BY THE 2017 MSCI STUDY?

18 A. THERE ARE A NUMBER OF CONCLUSIONS, BUT IN  
19 GENERAL, IT INVOLVES THAT DISCUSSIONS OF THE INFLUENCE  
20 OF WOMEN ON FIRMS AND PERHAPS THE LACK OF SUCH INFLUENCE  
21 OF BY NOT HAVING WOMEN ON FIRMS.

22 Q. AND --

23 A. ON BOARDS.

24 Q. DOES THIS STUDY CONCENTRATE ON A PARTICULAR  
25 BENEFIT OF WOMEN ON BOARDS?

26 A. ACTUALLY IT GOES THROUGH A NUMBER OF OUTCOMES.

27 Q. WHAT IS THE FIRST ONE THAT WE CAN TALK ABOUT?  
28 IS FINANCIAL PERFORMANCE ONE OF THOSE?

1           A.     ACTUALLY THE STUDY STARTS BY SORT OF DISCUSSING  
2 BOTH SORT OF THE PRESENCE OR ABSENCE OF WOMEN ON BOARDS  
3 IN VARIOUS CONTEXTS, VARIOUS COUNTRIES, THINGS OF THAT  
4 NATURE.

5                   BUT YES, IT DOES THEN MOVE INTO DISCUSSIONS OF  
6 THE EFFECT OR THE ASSOCIATION OF VARIOUS FINANCIAL  
7 OUTCOMES AND THE PRESENCE OR ABSENCE OF WOMEN ON BOARDS.

8           Q.     SO WOULD YOU TURN TO PAGE THREE, PLEASE.  AND  
9 IN THE FIRST PARAGRAPH, THE EXECUTIVE SUMMARY.

10          A.     CORRECT.

11          Q.     THE LAST LINE TELLS US THAT THEY TOOK A  
12 SNAPSHOT OF GLOBAL COMPANIES IN 2015 WITH STRONG FEMALE  
13 LEADERSHIP, AND THEN FINDING THAT THEY ENJOYED A RETURN  
14 ON THE EQUITY OF 10.1 PERCENT VERSUS 7.4 PERCENT OF  
15 THOSE WITHOUT WOMEN LEADERSHIP THOUGH A CAUSAL LINK WAS  
16 NOT ESTABLISHED, CORRECT?

17          A.     THAT'S WHAT IT SAYS, YES.

18          Q.     WHAT DOES THAT MEAN?

19          A.     SO IN THE CONTEXT OF YESTERDAY'S DISCUSSION,  
20 IT'S ESSENTIALLY JUST DESCRIPTIVE STATISTICS, SO IT'S  
21 AVERAGES OVER TWO DIFFERENT GROUPS.

22          Q.     AND WHEN THEY ADMIT THAT THE CAUSAL LINK IS NOT  
23 ESTABLISHED, IS THAT AN ADMISSION OF A DESCRIPTIVE -- OF  
24 WEAKNESS OF A DESCRIPTIVE STATISTICS ANALYSIS?

25          A.     SO I WOULDN'T PUT IT THAT WAY.  DESCRIPTIVE  
26 STATISTICS CAN NEVER DEMONSTRATE CAUSALITY, SO IT WOULD  
27 ESSENTIALLY BE ASKING THE TOOL TO DO SOMETHING IT'S  
28 NOT -- IT'S NOT MEANT TO DO.

1           SO I WOULDN'T EXACTLY CALL IT A WEAKNESS. BUT  
2 FROM AN ANALYTICAL STANDPOINT, IT'S HARD TO UNDERSTAND  
3 WHAT TO DO WITH A DIFFERENCE IN DESCRIPTIVE STATISTICS  
4 BETWEEN TWO GROUPS WITHOUT KNOWING A LOT MORE,  
5 PARTICULARLY WHAT IS IT THAT LED TO THAT DIFFERENCE.

6           Q.    WHAT YOU JUST SAID, DOES THAT MEAN THAT IT'S  
7 HARD TO ACTUALLY USE A FINDING LIKE A 10.1 PERCENT  
8 COMPARISON TO A 7.4 PERCENT?

9           A.    SO I SUPPOSE WE WOULD HAVE TO BUILD THAT OUT A  
10 LITTLE BIT. USE IT FOR WHAT PURPOSE?

11                IF ONE WERE MERELY DESCRIBING SOMETHING, I  
12 SUPPOSE THAT WOULD BE OKAY, BUT TO GO FARTHER THAN THAT  
13 AND IMPLY OR ASSERT ANY PARTICULAR MEANING OF THAT  
14 DIFFERENCE MIGHT BE A DIFFERENT STORY.

15                ALSO, SOMETHING THAT IS OFTEN COMMON TO  
16 CONSULTANCY REPORTS, AS IS TRUE THROUGHOUT THIS REPORT,  
17 WE'RE NOT PROVIDED WITH ANY ESTIMATES OF THE UNCERTAINTY  
18 OF THESE DESCRIPTIVE STATISTICS.

19                SO EVEN IF ONE WANTED TO PUT SOME WEIGHT ON  
20 THEM, IT'S NOT AT ALL CLEAR WHETHER 10.1 PERCENT VERSUS  
21 7.4 PERCENT ACTUALLY REPRESENTS A STATISTICALLY  
22 SIGNIFICANT DIFFERENCE.

23                IT MAY WELL BE THAT, FOR EXAMPLE, THESE  
24 AVERAGES ARE SO NOISY THAT THE UNCERTAINTY IN THEM MEANS  
25 THAT THEY ACTUALLY OVERLAP THOSE ESTIMATES.

26           Q.    WHAT DOES THAT MEAN, NOISY?

27           A.    SO WHEN WE TALKED ABOUT STATISTICAL METHODS  
28 INVOLVING RELIANCE ON LARGE NUMBERS, SO THE LAW OF LARGE

1 NUMBERS, FOR EXAMPLE, THAT MEANS AS THE SAMPLE SIZE GETS  
2 LARGER, YOU ARE MORE CONFIDENT. THERE'S LESS  
3 UNCERTAINTY IN, SAY, THE AVERAGE.

4 YOU COULD IMAGINE -- JUST FOR SIMPLICITY,  
5 IMAGINE THE FOLLOWING. YOU HAVE A VERY SMALL SAMPLE  
6 SIZE. IT ONLY HAS FIVE ELEMENTS IN IT. YOU CALCULATE  
7 THAT AVERAGE. BUT FOR ONE OF THOSE FIVE, WHOEVER WAS  
8 DOING THE ANALYSIS MISTYPES SOMETHING, RIGHT? INSTEAD  
9 OF A SEVEN, THEY PUT A NINE. DIFFERENT BY TWO.

10 IN A VERY LARGE SAMPLE, THAT ERROR WE CAN  
11 PRESUME MAY BE A RANDOM ERROR, A VERY LARGE SAMPLE,  
12 THAT'S NOT GOING TO AFFECT THE AVERAGE AT ALL.

13 IF YOU'RE AVERAGING OVER, SAY, 1,000 ELEMENTS,  
14 AND ONE OF THEM WAS MISTYPED BY TWO, THAT DIFFERENCE,  
15 TWO DIVIDED BY 1,000 IS GOING TO BE ESSENTIALLY  
16 MEANINGLESS.

17 HOWEVER IF YOU'RE DEALING WITH A SAMPLE SIZE OF  
18 FIVE ELEMENTS AND ONE OF THOSE FIVE IS MISTYPED, IT'S  
19 GOING TO HAVE A VERY LARGE EFFECT ON THE CALCULATION OF  
20 THE AVERAGE.

21 THAT WOULD BE ONE OF THE THINGS THAT'S INCLUDED  
22 IN AN ESTIMATE OF UNCERTAINTY IN THE DATA. AND IT WOULD  
23 BE INCLUDED IN ANY ESTIMATE OF, SAY, STATISTICAL -- I'M  
24 SORRY, ANALYSIS OF STATISTICAL SIGNIFICANCE.

25 THIS REPORT PROVIDES NONE OF THE INFORMATION  
26 NECESSARY TO DO THOSE COMPARISONS. IT PROVIDES NONE OF  
27 THE INFORMATION NECESSARY TO BE ABLE TO EVALUATE WHETHER  
28 THIS DIFFERENCE IS ANYTHING DIFFERENT THAN JUST RANDOM

1 VARIATION.

2 Q. WELL, SINCE YOU MENTIONED THAT, CAN YOU TELL US  
3 ACTUALLY WHAT THE METHODOLOGY OF THIS PARTICULAR STUDY  
4 IS?

5 A. WELL, SO THERE ARE LOTS OF RESULTS IN THIS  
6 STUDY, AND SO EACH ONE MIGHT BE A LITTLE BIT DIFFERENT,  
7 BUT LARGELY THIS STUDY IS MOSTLY JUST RELYING ON  
8 DESCRIPTIVE STATISTICS, SO AVERAGES BY GROUPS, THINGS OF  
9 THAT NATURE.

10 Q. DOES THAT IMPLY THAT THERE WAS MORE RIGOR THAT  
11 COULD HAVE BEEN APPLIED TO THE DATA?

12 A. WELL, IN SOME WAYS THAT'S UNKNOWN BECAUSE, AS I  
13 SAID BEFORE, OFTEN THESE STUDIES, THIS ONE INCLUDED,  
14 PROVIDE RELATIVELY LITTLE BACKGROUND AS TO WHAT THE DATA  
15 ARE AND THINGS OF THAT NATURE.

16 SO IT'S HARD TO BE ABLE TO SAY WITH THE DATA  
17 THAT THEY WERE WORKING WITH WHETHER ONE COULD DO MORE  
18 RIGOROUS ANALYSIS.

19 THAT SAID, ONE CAN CALCULATE SOMETHING AS  
20 SIMPLE AS IS THE DIFFERENCE BETWEEN 10.1 PERCENT AND  
21 7.4 PERCENT, IS THAT STATISTICALLY SIGNIFICANT -- IS  
22 THAT DIFFERENCE STATISTICALLY SIGNIFICANT WITH ANY DATA  
23 THAT THEY HAD. THEY COULD HAVE DONE SOMETHING LIKE  
24 THAT. AND THAT WOULD BE SOMETHING THAT ANYONE WOULD  
25 WANT TO KNOW BEFORE DECIDING WHAT TO DO WITH ANY OF  
26 THESE RESULTS.

27 Q. DID THEY DO THAT IN THIS STUDY?

28 A. NO.

1 Q. IN FACT, THEY TELL US RIGHT AT THE OUTSET OF  
2 THE SUMMARY THAT THEY TOOK A SNAPSHOT OF GLOBAL  
3 COMPANIES IN 2015.

4 DOES THAT GIVE YOU ANY MORE INSIGHT INTO THE  
5 DATA?

6 A. NO.

7 Q. WHAT ABOUT IN THE DETAIL IN THE FOLLOWING  
8 PAGES. TAKE, FOR EXAMPLE, PAGE FOUR IN THE BLUE BLOCK?

9 A. UH-HUH.

10 Q. DOES THAT GIVE YOU ANY MORE INSIGHT INTO THE  
11 DATA YOU WOULD NEED?

12 A. NO. SO TO DO SOMETHING EVEN AS BASIC AS  
13 CALCULATING THE UNCERTAINTY OF THESE AVERAGES OR  
14 CALCULATE THE STATISTICAL SIGNIFICANCE, OR WHETHER THERE  
15 WAS STATISTICAL SIGNIFICANCE BETWEEN GROUPS, ONE WOULD  
16 NEED AT MINIMUM THE NUMBER OF DATA POINTS USED IN EACH  
17 CALCULATION AND ONE WOULD ALSO NEED SOMETHING KNOWN AS  
18 THE VARIANCE OR THE STANDARD DEVIATION IN ADDITION TO  
19 THE MEAN.

20 Q. NOW, IN THE PARAGRAPH FOLLOWING THE BLUE BLOCK,  
21 AND I BELIEVE YOUR COPY IS HIGHLIGHTED IN YELLOW.

22 THEY TALK ABOUT MARKETS WITH MANDATORY QUOTAS.  
23 WERE THEY COMPARING MARKETS WITH MANDATORY QUOTAS TO  
24 MARKETS WITHOUT MANDATORY QUOTAS?

25 A. WHAT DO YOU MEAN, WERE THEY COMPARING?

26 Q. ON THIS AVERAGE OF THIS DESCRIPTIVE STATISTICAL  
27 ANALYSIS.

28 A. IN THE NUMBERS THAT YOU MENTIONED BEFORE, NO,

1 THAT WASN'T THE DIFFERENCE. THAT WAS BEING COMPARED.

2 Q. WELL, BESIDES THE FINANCIAL PERFORMANCE, WHAT  
3 ARE THE OTHER -- YOU MENTIONED THERE WERE OTHER  
4 CONCLUSIONS THAT WERE REACHED.

5 WHAT'S ONE OF THOSE?

6 A. WELL, FIRST OF ALL, THERE IS SOME DISCUSSION OF  
7 HOW MANY -- I'M SORRY, WHAT ARE THE BOARD COMPOSITIONS  
8 LIKE IN TERMS OF SEX COMPOSITION IN DIFFERENT COUNTRIES  
9 AND THINGS OF THAT NATURE, SO THERE ARE THOSE  
10 DESCRIPTIVE STATISTICS PRESENTED.

11 THERE ARE A NUMBER OF DIFFERENT -- YOU KNOW,  
12 ACCOUNTING MEASURES OF PERFORMANCE. SO EXHIBIT 2 LOOKS  
13 AT EARNINGS PER SHARE. EXHIBIT 3 LOOKS AT RETURN ON  
14 EQUITY. AND THERE ARE MORE FINER GRAINED DISCUSSIONS OF  
15 WHAT POSITIONS WOMEN HOLD IN VARIOUS COMPANIES.

16 Q. WOULD YOU TAKE A LOOK AT THE CONCLUSION PAGE ON  
17 PAGE 15? 15.

18 AND I BELIEVE THERE'S A SECTION THERE  
19 HIGHLIGHTED IN YELLOW IN THE FIRST PARAGRAPH.

20 WHAT DOES THAT TELL US?

21 A. THE HIGHLIGHTED PART SAYS:

22 "THE COMPANIES THAT REACH THIS CRITICAL  
23 MASS OF FEMALE DIRECTORS EXPERIENCE  
24 MEDIAN CHANGES IN EARNINGS PER SHARE OF  
25 PLUS 37 PERCENT AND IN RETURN ON EQUITY  
26 OF PLUS 10 PERCENTAGE POINTS, WHILE  
27 THOSE STARTING WITH NO FEMALE DIRECTORS  
28 EXPERIENCE MEDIAN CHANGE OVER THE

1           JULY 1ST, 2011 TO JUNE 30TH, 2016  
2           PERIOD OF NEGATIVE 8 PERCENT IN  
3           EARNINGS PER SHARE AND NEGATIVE 1  
4           PERCENTAGE POINT IN RETURN ON EQUITY."

5           Q.    THE WORD MEDIAN, IS THAT WHAT YOU MEANT EARLIER  
6           WHEN YOU SAID THIS WAS BASICALLY A DESCRIPTIVE  
7           STATISTICAL ANALYSIS?

8           A.    ALTHOUGH EARLIER WE WERE REFERRING TO MEANS, TO  
9           AVERAGES, SO THE REPORT DOES GO BACK AND FORTH TO SOME  
10          EXTENT ON WHETHER IT EXAMINES MEANS OR MEDIANS. BUT  
11          YES, A MEDIAN WOULD BE A DESCRIPTIVE STATISTIC AS WELL.

12          Q.    OKAY. SO IF A LAY PERSON WERE TO READ THIS  
13          PARAGRAPH AND WALK AWAY WITH THE IDEA THAT ALTHOUGH THEY  
14          DID NOT FIND A CAUSAL LINK BETWEEN THE CRITICAL MASS OF  
15          FEMALES ON CORPORATE BOARDS IN THEIR UNIVERSE OF  
16          CORPORATE BOARDS, THE MEDIAN CHANGES OF EARNINGS PER  
17          SHARE OF PLUS 37 PERCENT AND RETURN ON EARNINGS OF PLUS  
18          10 PERCENT, COULD I EXPECT AS A COMPANY BOARD MEMBER,  
19          CHAIRMAN OF A BOARD, THAT I SHOULD RUN OUT NOW AND GET A  
20          CRITICAL MASS OF WOMEN ON OUR BOARD BECAUSE I CAN RELY  
21          ON THAT KIND OF EXCHANGE?

22                WOULD YOU AGREE WITH ME DOING THAT?

23                MR. SEFERIAN: OBJECTION, MISSTATES THE  
24          DOCUMENT THE WITNESS IS BEING QUESTIONED ABOUT.

25                THE COURT: OVERRULED.

26                THE WITNESS: SO I GUESS THE WAY THAT I WOULD  
27          PUT IT IS REGARDLESS OF YOUR VIEWS, THIS INFORMATION,  
28          SUCH AS IT IS, MOST LIKELY WOULDN'T OR SHOULDN'T

1 MATERIALLY AFFECT YOUR CHOICE ON THAT DIMENSION.

2 Q. BUT I WANT A 37 PERCENT INCREASE IN MY EARNINGS  
3 PER SHARE?

4 A. YES. OBVIOUSLY -- THE ISSUE IS -- WELL, THERE  
5 ARE A NUMBER OF ISSUES.

6 THE ONE WE MENTIONED EARLIER, IS THIS DATA  
7 PRECISE ENOUGH, ARE THESE ESTIMATES PRECISE ENOUGH TO  
8 ACTUALLY KNOW WHETHER THAT DIFFERENCE IS STATISTICALLY  
9 SIGNIFICANT.

10 NOW, WITHOUT HAVING THE INFORMATION, WE CAN'T  
11 SAY FOR SURE -- THE INFORMATION THAT I SPOKE ABOUT  
12 BEFORE -- ALTHOUGH WITH ANY REASONABLY LARGE DATA SET  
13 AND, YOU KNOW, KNOWING HOW VARIABLE THINGS ARE, THE  
14 DIFFERENCE BETWEEN A POSITIVE 37 PERCENT AND A NEGATIVE  
15 8 PERCENT IS MOST LIKELY STATISTICALLY SIGNIFICANT. BUT  
16 AGAIN, ONE WOULD LIKE THAT INFORMATION TO BE SURE.

17 BUT THERE'S ACTUALLY A DEEPER PROBLEM -- A  
18 NUMBER OF DEEPER PROBLEMS HERE. THESE ANALYSES, SUCH AS  
19 WE CAN TELL, ARE COMBINING A BUNCH OF DISPARATE FIRMS  
20 WHEN THEY'RE TALKING ABOUT THESE SORTS OF THINGS. SO  
21 THIS STATEMENT IS RELYING ON GENERICALLY AN ANALYSIS  
22 ACROSS MANY DIFFERENT INDUSTRIES, DIFFERENT COUNTRIES,  
23 THINGS OF THAT NATURE.

24 SO TAKING THIS TIME PERIOD, WE KNOW THAT SOME  
25 ENERGY FIRMS HAD PROBLEMS IN THIS TIME PERIOD, RIGHT?  
26 SOME ENERGY FIRMS ARE -- GIVEN KIND OF THE STATE OF THE  
27 WORLD AND TECHNOLOGICAL CHANGE AND THINGS LIKE THAT,  
28 ENERGY FIRMS -- YOU KNOW, PARTICULARLY THIS WHOLE

1 VESTIGIAL PART OF THE INDUSTRY, YOU KNOW, DIDN'T HAVE  
2 SUCH GOOD PERFORMANCE.

3 WE ALSO KNOW FROM OTHER -- YOU KNOW, FROM OTHER  
4 INFORMATION THAT ENERGY FIRMS TEND TO HAVE FEWER WOMEN  
5 ON THEIR BOARDS, AND SO SORT OF THE IMPLICATION THAT IF  
6 I'M RUNNING AN ENERGY FIRMS I COULD JUST SOLVE ALL MY  
7 PROBLEMS BY GOING OUT AND PUTTING MORE WOMEN ON THE  
8 BOARD, AT LEAST IN MY OPINION WOULD BE ABSURD.

9 THE PROBLEMS ARE STRUCTURAL. THEY'RE NOT  
10 PROBLEMS THAT CAN BE INVOLVED STRATEGICALLY IF I'M, SAY,  
11 RUNNING COAL PLANTS OR SOMETHING LIKE THAT.

12 AND THE ANALYSIS HERE DOESN'T ALLOW US TO KIND  
13 OF KNOW WHAT IS DRIVING THAT DISPARITY ACROSS THE  
14 GROUPS. IS IT DIFFERENT INDUSTRIAL COMPOSITIONS? IS IT  
15 RETURNS IN PARTICULAR JURISDICTIONS? IS IT ANY OF THE  
16 DOZENS OF THINGS.

17 SO THE IDEA THAT WE COULD TAKE THIS INFORMATION  
18 AND SAY, WELL, THE SOLUTION IS PUTTING MORE WOMEN ON  
19 BOARDS WOULD BE WHOLLY PREMATURE. SO THAT'S ONE ISSUE.

20 A RELATED ISSUE -- AND TO THEIR CREDIT, MSCI IS  
21 UP FRONT BOTH IN THE BEGINNING AND IN THE PARAGRAPH YOU  
22 POINTED TO, TO SAY, YOU KNOW, LOOK, THESE ARE, THEY CALL  
23 THEM CORRELATIONS, REALLY. THE WAY THAT THEY PRESENTED  
24 THEM, THEY'RE NOT REALLY CORRELATIONS. THEY PRESENTED  
25 THEM AS DIFFERENCES OF CATEGORICAL MEANS, BUT IT'S CLOSE  
26 ENOUGH TO A CORRELATION.

27 SO THEY'RE UP FRONT AND THEY SAY, YOU KNOW,  
28 WHILE WE NOTE THIS CORRELATION, WE DO NOT POSIT A CAUSAL

1 LINK RIGHT. SO THEY THEMSELVES ARE SAYING, IN A JARGONY  
2 WAY, TO SOME EXTENT, BUT THEY ARE BEING UP FRONT IN  
3 SAYING, LOOK, WE'VE GOTTEN A CLAIM TO CAUSALITY.

4 SO BACK TO YOUR HYPOTHETICAL CHOICE. IF I  
5 THINK BASED ON THIS THAT I CAN ADD WOMEN TO THE BOARD  
6 AND IT WILL IMPROVE MY EARNINGS PER SHARE OR MY RETURN  
7 ON EQUITY, THE REPORT ITSELF IS SAYING WE MAKE NO CLAIMS  
8 TO A CAUSAL -- YOU KNOW, A CAUSAL CONNECTION LIKE THAT.

9 Q. SO AT THE VERY LEAST, YOU WOULD CAUTION ME AS  
10 THE HYPOTHETICAL CHAIRMAN OF THE BOARD TO (A), DO  
11 SOMETHING MORE RIGOROUS IN THE DATA THAT'S BEHIND THIS  
12 STATISTIC IF I WANT TO RELY ON IT, AND (B), ACCOUNT FOR  
13 SOME OF THOSE DIFFERENCES THAT YOU HAVE IDENTIFIED AMONG  
14 INDUSTRIES, COUNTRIES, BECAUSE MY COMPANY IS IN  
15 CALIFORNIA, AND THIS INCLUDES THINGS IN SPAIN AND  
16 FRANCE, FOREIGN COUNTRIES, RIGHT?

17 MR. SEFERIAN: OBJECTION, BEYOND THE SCOPE OF  
18 THE WITNESS'S EXPERTISE.

19 THE COURT: OVERRULED.

20 THE WITNESS: THE SPIRIT OF YOUR COMMENT I  
21 THINK IS LARGELY CORRECT.

22 SO IF WE RELATE IT TO THE DISCUSSION YESTERDAY,  
23 THIS ANALYSIS IS, YOU KNOW, DESCRIPTIVE STATISTIC  
24 ANALYSIS. WHAT YOU SORT OF DESCRIBED IMPLIED DOING  
25 SOMETHING MORE, SAY, IN THE REGRESSION CONTEXT, SO  
26 ADJUSTING FOR MORE OF THESE DIFFERENCES.

27 ALTHOUGH EVEN IF WE HAD THOSE ADJUSTMENTS, WE  
28 WOULD STILL RUN INTO THAT CONCERN THAT WE ENDED WITH

1 YESTERDAY OF, OKAY, WHAT ABOUT THE UNOBSERVABLE  
2 CHARACTERISTICS THAT YOU CAN'T ADJUST FOR JUST THROUGH  
3 REGRESSION METHODS.

4 SO, YES, YOU WOULD WANT TO SEE A LOT MORE ALONG  
5 THE LINES OF WHAT WE WERE DISCUSSING YESTERDAY.

6 BY MR. STICHT:

7 Q. OKAY. PROFESSOR, LET'S TURN TO EXHIBIT 245 IN  
8 THE SAME BINDER.

9 ARE YOU FAMILIAR WITH THIS STUDY?

10 A. I AM, YES.

11 Q. IS THIS STUDY REFERENCED IN SECTION 1(C)(2) OF  
12 SB-826?

13 A. YES, I BELIEVE IT IS.

14 Q. WHAT DOES -- IF YOU STILL HAVE SB-826 NEARBY?

15 A. YES.

16 Q. SO WHAT DOES THE LEGISLATIVE FINDING TELL US  
17 ABOUT (C)(2)?

18 A. SO IN SECTION 1(C)(2) IT SAYS:

19 "IN 2014, CREDIT SUISSE FOUND THAT  
20 COMPANIES WITH AT LEAST ONE WOMAN ON  
21 THE BOARD HAD AN AVERAGE RETURN ON  
22 EQUITY OF 12.2 PERCENT COMPARED TO 10.1  
23 PERCENT FOR COMPANIES WITH NO FEMALE  
24 DIRECTORS.

25 "ADDITIONALLY, THE PRICE TO BOOK VALUE  
26 OF THESE FIRMS WAS GREATER FOR THOSE  
27 WITH WOMEN ON THEIR BOARDS, 2.4 TIMES  
28 THE VALUE IN COMPARISON TO 1.8 TIMES

1 THE VALUE FOR ZERO WOMEN ON BOARDS."

2 Q. IS THAT WHAT THIS STUDY FOUND?

3 A. AMONG OTHER THINGS, THAT RESULT IS IN THIS  
4 STUDY.

5 Q. ARE YOU FAMILIAR WITH CREDIT SUISSE?

6 A. A BIT, YES.

7 Q. WHAT CAN YOU TELL US ABOUT CREDIT SUISSE?

8 A. SO THEY'RE A GENERAL FINANCIAL SERVICES FIRM  
9 AND ALSO HAVE CONSULTING ARMS AS WELL.

10 Q. IN MY QUESTION OF YOU EARLIER ABOUT THE  
11 DIFFERENCE BETWEEN ACADEMIC STUDIES AND CONSULTANCY  
12 STUDIES, WHERE DOES THIS ONE FALL?

13 A. IT WOULD BE A CONSULTANCY STUDY. AS I  
14 MENTIONED EARLIER IN OUR ACADEMIC PAPERS, WE RARELY HAD  
15 PICTURES OF SMILING PEOPLE ON THE COVER, BUT YES, IT'S A  
16 CONSULTANCY STUDY.

17 Q. THAT'S A LAY PERSON'S GIVEAWAY, RIGHT, IF WE  
18 SEE THAT. BUT THERE IS SOMETHING ELSE IN THE REPORT  
19 THAT TELLS YOU MORE SERIOUSLY WHY IT'S MORE OF A  
20 CONSULTANCY, RIGHT?

21 MR. SEFERIAN: OBJECTION, LEADING.

22 THE COURT: OVERRULED.

23 THE WITNESS: WELL, THE FACT THAT IT'S CREDIT  
24 SUISSE, IT'S -- THEY'RE NOT AN ACADEMIC ORGANIZATION.  
25 BY MR. STICHT:

26 Q. WHAT ABOUT METHODOLOGY?

27 A. AGAIN, MUCH LIKE THE MCSI STUDY, IT'S MOSTLY  
28 DESCRIPTIVE STATISTICS.

1 Q. SO INDEED IN THE STATUTE, (C) (2), THEY  
2 SPECIFICALLY REFERENCE AN AVERAGE RETURN ON EQUITY?

3 A. UH-HUH.

4 Q. BY AVERAGE THEY MEAN A DESCRIPTIVE STATISTIC?

5 A. YES, AN AVERAGE OR A MEAN IS A DESCRIPTIVE  
6 STATISTICS, YES.

7 Q. DO THEY GO BEYOND DESCRIPTIVE STATISTICS  
8 METHODOLOGY IN THIS STUDY?

9 A. NO, MOST OF THE RESULTS INCLUDING THE ONE CITED  
10 IN SB-826 DON'T INVOLVE EVEN REGRESSIONS, MUCH LESS MORE  
11 SOPHISTICATED DESIGNS. AND LIKEWISE, AS WITH THE  
12 EARLIER STUDY, THE CREDIT SUISSE STUDY PROVIDES NO  
13 INDICATION OF STATISTICAL SIGNIFICANCE AS BETWEEN THE  
14 DIFFERENCES.

15 SO, FOR EXAMPLE, IS 12.2 PERCENT STATISTICALLY  
16 LARGER THAN 10.1 PERCENT? IT MIGHT BE, BUT WE DON'T --  
17 WE'RE NOT PROVIDED WITH THE INFORMATION TO KNOW WHETHER  
18 OR NOT THAT DIFFERENCE IS STATISTICALLY SIGNIFICANT OR  
19 IS WITHIN THE BANDS OF UNCERTAINTY OF THESE ESTIMATES.

20 Q. WHAT DOES PRICE TO BOOK VALUE OF A FIRM MEAN?

21 A. SO IT'S ESSENTIALLY A COMPARISON OF THE MARKET  
22 VALUE OF THE FIRM VERSUS THE ACCOUNTING VALUE OF THE  
23 FIRM.

24 ANALYSTS AND EVEN ACADEMICS SOMETIMES WILL USE  
25 IT AS A PROXY OR AT LEAST A FIRST CUT TO INDICATE HOW  
26 MUCH VALUE MANAGEMENT OR THE ORGANIZATION OF THE FIRM IS  
27 PROVIDING.

28 SO TO GIVE A SENSE, IF THE ACCOUNTING VALUE OF

1 OUR ASSETS IN A FIRM ARE X, AND THE MARKET VALUE IS  
2 LIKEWISE X, THAT ESSENTIALLY MEANS THE GOING CONCERN OF  
3 THIS FIRM IS NOT WORTH ANYTHING MORE THAN WE WOULD GET  
4 IF WE WOULD JUST SELL ALL OF OUR ASSETS.

5 AND SO IF YOU'RE LOOKING AT A FIRM THAT HAS A  
6 2 X MARKET VALUE, YOU KNOW, WHERE X IS THE ACCOUNTING  
7 VALUE OF THE ASSETS, THAT WOULD SUGGEST THAT IN SOME  
8 WAY, WHETHER IT BE BECAUSE OF MANAGEMENT OR OTHER  
9 ELEMENTS OF THE ORGANIZATION, IT'S GENERATING AN  
10 INCREASE IN THE VALUE RELATIVE TO THE ASSETS THAT THE  
11 FIRM HOLDS.

12 Q. NOW, ITS PRICE, IS THAT ITS MARKET  
13 CAPITALIZATION NUMBER, OR IS THAT ITS PRICE PER SHARE?

14 A. YOU CAN DO EITHER CALCULATION. YOU WOULD JUST  
15 HAVE TO MAKE SURE THAT BOTH YOUR NUMERATOR AND  
16 DENOMINATOR WERE CONSISTENT. SO IF YOU ARE DOING PRICE  
17 PER SHARE, YOU WOULD WANT TO MAKE SURE THAT YOUR ASSETS  
18 LIKEWISE WERE ON A PER SHARE BASIS.

19 Q. ALL RIGHT. AND SO WHEN WE ARE PRESENTED WITH A  
20 FINDING THAT A PRICE TO BOOK VALUE OF THESE FIRMS WAS  
21 GREATER FOR THOSE WITH WOMEN ON THEIR BOARDS, AND THEN  
22 GIVEN THE NUMBERS, ARE THERE ASSUMPTIONS THAT ARE BEING  
23 MADE IN THAT -- ARE THERE ASSUMPTIONS MADE IN THAT  
24 PARTICULAR FINDING?

25 A. SO IN THE PRESENTATION IN CREDIT SUISSE, IT'S  
26 HARD TO LINK UP YOUR STATEMENT WITH WHAT THEY DO, IN  
27 THAT THEY JUST PRESENT THESE DIFFERENCES. SO I DON'T  
28 KNOW IF THAT'S ASSUMPTIONS, BUT IN USING THESE

1 DESCRIPTIVE DIFFERENCES TO THEN DRAW CONCLUSIONS.

2 SO IN OTHER WORDS PARTS OF THE REPORT WHERE  
3 YOU'RE MAKING SOME POLICY CONCLUSIONS, THE ASSUMPTION,  
4 IF YOU BELIEVE THE CONCLUSIONS ARE RELATED TO THE  
5 PRESENTATION OF THE DATA IN THE REPORT, THE ASSUMPTION  
6 THAT YOU WOULD NEED WAS THAT THERE ACTUALLY IS SOME  
7 RELATIONSHIP BETWEEN BOARD COMPOSITION IN TERMS OF THE  
8 SEX DIVERSITY AND THESE DIFFERENCES.

9 Q. WELL, IF YOU LOOK AT PAGE FOUR OF THE REPORT,  
10 THE SECOND HIGHLIGHTED SECTION, WHICH IS THE THIRD  
11 PARAGRAPH, THEY TELL US ABOUT THE DATA THAT THEY USE, DO  
12 THEY NOT?

13 A. THEY DO, YES.

14 Q. IT'S THEIR OWN PROPRIETARY DATABASE OF 3,000  
15 COMPANIES, ET CETERA?

16 A. RIGHT.

17 Q. BUT MY QUESTION, ASSUMPTION, I WAS HOPING TO  
18 ELICIT AN ANSWER THAT HAD TO TELL US ABOUT THE  
19 DESCRIPTIVE STATISTICAL COMPARISONS OF MEANS, OR  
20 AVERAGES, AS YOU PUT IT, BETWEEN COMPANIES IN THAT 3,000  
21 GROUP ACROSS THE BOARD JUST BASED ON MARKET  
22 CAPITALIZATION AND THEIR BOOK VALUE, RIGHT?

23 A. YES.

24 Q. IS THAT --

25 A. I'M SORRY.

26 Q. AND DOES THAT GIVE ME ENOUGH INFORMATION TO  
27 REACH THE CONCLUSION THAT THE NO FEMALE DIRECTORS VERSUS  
28 THE FEMALE DIRECTORS' FIRMS WILL OUTPERFORM -- EXCUSE

1 ME, THE FEMALE DIRECTOR FIRMS WILL OUTPERFORM THE NO  
2 FEMALE DIRECTOR FIRMS IN TERMS OF MARKET CAPITALIZATION  
3 AND BOOK VALUE?

4 A. SO I GUESS THERE ARE A COUPLE OF THINGS. WHEN  
5 YOU SAY WILL OUTPERFORM, DO YOU MEAN SORT OF GOING  
6 FORWARD?

7 Q. WELL, BASED ON THE NUMBERS GIVEN RIGHT THERE IN  
8 THE STATUTE. 2.4 TIMES THE VALUE IN COMPARISON TO 1.8.

9 A. SO THAT'S A STATEMENT ABOUT THE DATA THAT THEY  
10 ANALYZED, SO THAT WOULD BE A STATEMENT ABOUT THE PAST.  
11 I'M ASKING YOU, ARE YOU ASKING ABOUT IS THIS SOMETHING  
12 THAT WE COULD USE THEN TO GO FORWARD? IS THAT --

13 Q. WELL, LET ME ASK IT MORE GENERICALLY, BECAUSE  
14 YOU'RE THE EXPERT, WHAT IS THAT TELLING ME?

15 A. IT'S TELLING YOU DESCRIPTIVELY THAT IN THE DATA  
16 THEY LOOKED AT, FIRMS THAT HAD GREATER FEMALE  
17 REPRESENTATION ON THEIR BOARDS HAD HIGHER MARKET TO BOOK  
18 VALUE DURING THIS TIME PERIOD THAN FIRMS THAT HAD LESS  
19 REPRESENTATION.

20 BUT WHAT IT DOESN'T TELL YOU, FIRST OF ALL, AS  
21 OUR DISCUSSION BEFORE, WHETHER THOSE DIFFERENCES ARE  
22 STATISTICALLY SIGNIFICANT. THE INFORMATION NECESSARY TO  
23 MAKE THAT DETERMINATION ISN'T PRESENT IN THE REPORT.

24 Q. WHAT WOULD BE AN EXAMPLE -- WE MAY BE TALKING  
25 ABOUT THE SAME THING, SO LET'S JUST USE YOUR TERM OF  
26 STATISTICALLY SIGNIFICANT. WHAT IS AN EXAMPLE OF WHAT  
27 WOULD BE MISSING THAT WE COULD POINT TO?

28 A. SO WE COULD HAVE STANDARD ERRORS, RIGHT. SO

1 STANDARD ERRORS PROVIDE SOME MEASURE OF HOW VARIABLE  
2 THESE ESTIMATES ARE.

3 THAT WOULD BE SOMETHING THAT WOULD BE HELPFUL  
4 IN DETERMINING STATISTICAL SIGNIFICANCE, OR THEY COULD  
5 PROVIDE AN ACTUAL TEST FOR STATISTICAL SIGNIFICANCE, SO  
6 THEY COULD PROVIDE WHAT'S KNOWN AS A T VALUE OR A T  
7 STATISTIC.

8 Q. WHAT ABOUT THE DIFFERENCE IN THE INDUSTRIES  
9 THAT ARE IN THE 3,000 GROUP?

10 A. SO THAT'S AN ENTIRELY DIFFERENT ISSUE.

11 SO I'M SAYING EVEN IF WE IGNORED THE IDEA THAT  
12 MAYBE IT'S OTHER THINGS DRIVING THE DIFFERENCE BETWEEN  
13 THESE TWO GROUPS, I'M FIRST SAYING WE DON'T EVEN KNOW  
14 WHETHER THE DIFFERENCE BETWEEN THESE TWO GROUPS IS A  
15 SYSTEMATIC DIFFERENCE OR IT'S A DIFFERENCE THAT CAN BE  
16 EXPLAINED BY RANDOM VARIATION.

17 Q. SO IF WE GET BEYOND THAT HURDLE --

18 A. SURE.

19 Q. -- OF WHAT YOU JUST STATED, DOES THE DIFFERENCE  
20 IN THE COMPANIES IN THE 3,000 GROUP BECOME RELEVANT?

21 A. SO IT'S ALSO RELEVANT, SURE.

22 SO AGAIN, MUCH LIKE OUR EARLIER DISCUSSION,  
23 THEY'RE ESSENTIALLY IN THESE COMPARISONS LUMPING  
24 TOGETHER A LOT OF DIFFERENT KINDS OF COMPANIES. AS THEY  
25 SAY THEMSELVES, IT'S ACROSS 40 COUNTRIES AND ALL MAJOR  
26 SECTORS.

27 SO IT MIGHT WELL BE THAT THE FIRMS THAT HAD  
28 GREATER FEMALE PARTICIPATION IN THE BOARDS WERE

1 DISPROPORTIONATELY IN COUNTRIES THAT WERE HAVING BETTER  
2 STOCK RETURNS AT THE TIME. IT COULD BE THAT THE FIRMS  
3 THAT HAD GREATER FEMALE PARTICIPATION IN THE BOARD WERE  
4 IN SECTORS THAT WERE ACHIEVING BETTER MARKET RETURNS AT  
5 THE TIME. IT COULD BE ALL SORTS OF THINGS OF THAT  
6 NATURE.

7 Q. ON THAT PAGE FOUR, THE HEADING OF THAT  
8 PARAGRAPH THAT WE WERE LOOKING AT WAS "LETTING THE DATA  
9 SPEAK," RIGHT. THEY TELL US IN THERE ABOUT THE 3,000  
10 COMPANIES THAT IT TRACKS BY COMPANY, INDUSTRY AND  
11 REGION, THE GENDER MIX ACROSS KEY SENIOR MANAGEMENT.

12 WHAT DOES THAT MEAN TO YOU?

13 A. SO IT MEANS THAT THEY HAVE THE DATA. AND SO  
14 THEY CERTAINLY PUT OUT AT LEAST REGRESSIONS AND PROVIDED  
15 REGRESSION ANALYSIS, AND THEY CERTAINLY COULD HAVE  
16 PROVIDED TESTS OF STATISTICAL SIGNIFICANCE AND THINGS OF  
17 THAT NATURE.

18 Q. AND DOES THIS FINDING OF PRICE TO BOOK VALUE ON  
19 THE COMPARISON BETWEEN BOARDS WITH FEMALES AND BOARDS  
20 WITH NO FEMALES, IS THAT SOMETHING THAT YOU THINK IS  
21 LIKELY TO OCCUR IN THE FUTURE AS WELL?

22 A. SO I SUPPOSE IF WE -- IF WE TAKE PAST  
23 RELATIONSHIPS AS OUR BEST GUIDE TO FUTURE, THAT WOULD BE  
24 OUR FIRST GUESS FOR SURE.

25 BUT THERE WOULD BE A LOT THAT WE WOULD NEED IN  
26 THERE. YOU KNOW, THE INFORMATION FOR STATISTICAL  
27 SIGNIFICANCE WOULD BE IMPORTANT. SO IF IT TURNS OUT  
28 THAT THIS DIFFERENCE IS NOT STATISTICAL SIGNIFICANCE,

1 MEANING IT'S JUST AS LIKELY TO BE THE RESULT OF RANDOM  
2 VARIATION, THEN THIS INFORMATION WOULD PROVIDE US NO  
3 REAL GUIDE TO THE FUTURE.

4 Q. SO BEING GIVEN THIS -- SO AM I TO CONCLUDE FROM  
5 WHAT YOU'RE TELLING US, THAT THE STRAIGHT COMPARISON  
6 BETWEEN THE FEMALE ON BOARD/NO FEMALE ON BOARD BASED  
7 UPON MEANS OR BASED UPON PRICE TO BOOK VALUES IS NOT  
8 GOING TO ACTUALLY TELL ME IF ITS STATISTICALLY  
9 SIGNIFICANT; IT'S NOT GOING TO TELL ME THAT THIS WILL  
10 ACTUALLY RECUR IF WE WANTED TO REPEAT THE STUDY?

11 MR. SEFERIAN: OBJECTION, LEADING.

12 THE COURT: OVERRULED.

13 THE WITNESS: SO IN TERMS OF -- LIKE I SAID  
14 EARLIER, IF THESE DIFFERENCES ARE NOT STATISTICALLY  
15 SIGNIFICANT, IT WOULD BE IMPRUDENT FOR US TO MAKE ANY  
16 CONJECTURE BASED ON THEM ABOUT THE FUTURE FOR SURE.

17 IF THEY ARE STATISTICALLY SIGNIFICANT, IT MAY  
18 BE REASONABLE TO USE THIS AS SORT OF YOUR GUIDE TO THE  
19 FUTURE, BUT THEN WE ARE LEFT WITH IS IT BECAUSE OF WOMEN  
20 PARTICIPATION ON BOARDS OR IS IT BECAUSE OF THESE  
21 OTHER -- THESE OTHER TYPES OF FACTORS, RIGHT.

22 SO JUST TO GIVE YOU A HYPOTHETICAL, IMAGINE  
23 THAT THE DISPARITY IS DIFFERENT -- I'M SORRY, IS DRIVEN  
24 BY SECTORAL DIFFERENCES. TO MAKE IT REALLY CONCRETE,  
25 LET'S SAY THAT MANY OF THE FIRMS THAT HAD NO WOMEN ON  
26 THE BOARDS WERE IN THE ENERGY SECTOR.

27 AND SO LET'S SAY IN THIS TIME PERIOD, BECAUSE  
28 OF GLOBAL CLIMATE CHANGE AND CHANGING KIND OF POLICIES,

1 THE ENERGY SECTOR KIND OF HAS A TOUGH TIME, BUT THEN  
2 IMAGINE SORT OF GOING FORWARD WE THINK, OKAY, THEY'VE  
3 SOLVED THEIR PROBLEMS, THEY'VE MOVED TO OTHER TYPES OF  
4 ENERGY PRODUCTION, AND THINGS LIKE THAT, AND SO THE  
5 FUTURE IS LOOKING GOOD FOR THE ENERGY SECTOR.

6 IF IT WAS DRIVEN BY ENERGY SECTOR AND WE USED  
7 THIS INFORMATION TO SORT OF MAKE THE PREDICTION, BUT WE  
8 KNEW, HEY, THE ENERGY SECTOR IS GOING TO BE BETTER, WE  
9 MIGHT BE TRICKED INTO NOT EXPLOITING THAT INFORMATION.

10 WE MIGHT SAY, OH, WELL, THIS CREDIT SUISSE  
11 PAPER TOLD US IT WAS ABOUT WOMEN, NOT ABOUT SECTORAL  
12 DIFFERENCES.

13 AND SO, YOU KNOW, THAT'S WHY THE SPECIFICS  
14 MATTER, AND SO WHAT'S ACTUALLY DRIVING THE DIFFERENCES  
15 IN ORDER TO PUT ANY CONSEQUENTIAL DECISIONS BASED ON  
16 THEM.

17 Q. IN YOUR EXPERT OPINION, ARE THE CONCLUSIONS  
18 REACHED IN THIS STUDY RELIABLE?

19 A. I WOULD SAY NO, IN THAT THE POLICY TYPE  
20 CONCLUSIONS OR THE -- YOU KNOW, THE THRUST OF THE  
21 CONCLUSIONS DOES SORT OF RELY ON THIS IDEA THAT THIS IS  
22 A CAUSAL RELATIONSHIP. BECAUSE IF IT WEREN'T, YOU KNOW,  
23 DESPITE THE FACT THAT THEY DISCLAIM ANY CAUSAL  
24 RELATIONSHIP OR THAT THEY'VE IDENTIFIED ANY CAUSAL  
25 RELATIONSHIP, THEY ARE MAKING SUGGESTIONS ABOUT THE  
26 VALUE OF WOMEN ON BOARDS THAT SEEM TO REQUIRE TREATING  
27 THESE DIFFERENCES AS PROVIDING EVIDENCE OF A CAUSAL  
28 RELATIONSHIP.

1 Q. ARE YOU ABLE TO TELL US WHY THIS STUDY AS WELL  
2 AS THE LAST ONE, THE MSCI STUDY -- TELL US UP FRONT THAT  
3 THEY DO NOT REACH A CAUSAL RELATIONSHIP?

4 A. WELL, BOTH OF THE STUDIES SAY SO EXPLICITLY.

5 Q. CAN YOU TELL US WHY THEY DO THAT?

6 MR. SEFERIAN: OBJECTION, CALLS FOR  
7 SPECULATION.

8 THE COURT: IF HE KNOWS. HE'S AN EXPERT.  
9 OVERRULED.

10 THE WITNESS: WELL, MUCH RELATED TO OUR  
11 DISCUSSION YESTERDAY, YOU CAN NEVER MAKE A CAUSAL CLAIM  
12 BASED ON MERE DESCRIPTIVE STATISTICS.  
13 BY MR. STICHT:

14 Q. WOULD YOU PLEASE TURN TO EXHIBIT 246.

15 ARE YOU FAMILIAR WITH THIS STUDY, PROFESSOR?

16 A. YES, I AM.

17 Q. AND IS THIS THE SAME STUDY THAT'S IN  
18 SUBPARAGRAPH SECTION (1) (C) (3)?

19 A. YES.

20 Q. THE BERKELEY STUDY, 2012.

21 A. CORRECT.

22 Q. AND WHAT DID THE LEGISLATURE STATE WAS ITS  
23 FINDINGS ON SECTION (1) (C) (3)?

24 A. (READING:)

25 "A 2012 UNIVERSITY OF CALIFORNIA  
26 BERKELEY STUDY CALLED WOMEN CREATE A  
27 SUSTAINABLE FUTURE FOUND THAT COMPANIES  
28 WITH MORE WOMEN ON THEIR BOARDS ARE

1 MORE LIKELY TO 'CREATE A SUSTAINABLE  
2 FUTURE' BY, AMONG OTHER THINGS,  
3 INSTITUTING STRONG GOVERNANCE  
4 STRUCTURES WITH A HIGH LEVEL OF  
5 TRANSPARENCY."

6 Q. IN YOUR OPINION IS THAT WHAT THIS STUDY FOUND?

7 A. IN MY OPINION IT'S WHAT THIS STUDY PURPORTS TO  
8 FIND.

9 Q. CAN YOU TELL US WHAT IT MEANS CREATE A  
10 SUSTAINABLE FUTURE?

11 A. THIS STUDY HAS SOME VIEWS AS TO WHAT GOVERNANCE  
12 MECHANISMS AND THINGS OF THAT NATURE ARE GOOD FOR A FIRM  
13 TO HAVE KIND OF GOING FORWARD AND PURPORTS TO FIND THAT  
14 FIRMS WITH MORE WOMEN ON THEIR BOARD ARE MORE LIKELY TO  
15 ADOPT SUCH MECHANISMS.

16 Q. AND WHAT'S A STRONG GOVERNANCE STRUCTURE?

17 A. SO MUCH OF WHAT THEY DO IS THEY FOCUS ON THESE  
18 ESG MEASURES. SO WE TALKED ABOUT THAT YESTERDAY. THE  
19 ENVIRONMENTALLY AND SOCIALLY CONSCIOUS SORTS OF  
20 MEASURES.

21 SO JUST, FOR EXAMPLE, IN THE ENVIRONMENT  
22 CONTEXT ON PAGE 246-004, THEY SAY, "COMPANIES WITH MORE  
23 WOMEN ON THEIR BOARDS OF DIRECTORS ARE MORE LIKELY TO BE  
24 COMPANIES THAT PROACTIVELY INVEST IN RENEWABLE POWER  
25 GENERATION AND RELATED SERVICES," AND THINGS OF THAT  
26 NATURE.

27 Q. AND WHAT ROLE, IF ANY, DID TRANSPARENCY PLAY IN  
28 THAT STRONG GOVERNANCE STRUCTURE.

1           WHAT DOES TRANSPARENCY MEAN?

2           A.     SO IN TERMS OF -- IN TERMS OF WHAT THEY'RE  
3     SPEAKING ABOUT IN TERMS OF TRANSPARENCY IS THE EXTENT TO  
4     WHICH THE FIRMS ARE MAKING SORT OF AFFIRMATIVE  
5     STATEMENTS OF WHAT THEY'RE GOING TO DO ON ESG MEASURES  
6     AND THINGS OF THAT NATURE.

7           Q.     WE TALKED ABOUT A HYPOTHESIS YESTERDAY, RIGHT?  
8     YOU START WITH A HYPOTHESIS?

9           A.     YES.

10          Q.     HOW WOULD YOU DEFINE WHAT THE HYPOTHESIS OF  
11     THIS PARTICULAR STUDY WAS?

12          A.     SO WE COULD DEFINE IT EITHER WAY. WE COULD  
13     DEFINE IT EITHER AS FIRMS WITH MORE WOMEN ON THEIR  
14     BOARDS ARE MORE LIKELY TO ENGAGE IN ESG, ET CETERA, TYPE  
15     POLICIES.

16                 OR WE COULD SET IT UP AS A HYPOTHESIS THAT SAYS  
17     THERE'S NO DIFFERENCE IN THE LIKELIHOOD OF ENGAGING IN  
18     ESG POLICIES AS A FUNCTION OF FEMALE PARTICIPATION ON  
19     BOARDS, AND OTHER THINGS, OTHER THAN ESG. ESG IS SORT  
20     OF A BROAD TERM. SO I THINK YOU CAN CALL ALL THESE  
21     THINGS ESG, BUT THEY ALSO INCLUDE, AS TO YOUR  
22     TRANSPARENCY QUESTION, A FIRM ATTEMPTS TO AVOID  
23     CORRUPTION AND THINGS OF THAT NATURE.

24          Q.     AND DOES THE STUDY THEN ATTEMPT TO FOCUS ON  
25     THOSE ELEMENTS THAT YOU CALL ESG AND TRANSPARENCY?

26          A.     SURE. YES.

27          Q.     OKAY. SO HOW DOES THIS STUDY ACTUALLY FIT INTO  
28     OUR MODEL OF STATISTICAL METHODOLOGY?

1       A.     SO THIS STUDY GIVES VERY LITTLE INFORMATION AS  
2 TO WHAT THEY DO.  THERE'S RELATIVELY LITTLE DISCUSSION  
3 OF WHAT THE DATA ARE AND DESCRIPTIONS OF THE DATA.

4             SO IN TERMS OF METHODOLOGY, IT'S A LITTLE BIT  
5 DIFFICULT TO ASSESS WITH MUCH CONFIDENCE WHAT THE  
6 METHODOLOGY IS.  BUT IT'S MOSTLY, AS BEST I CAN TELL,  
7 AGAIN, SORT OF COMPARISONS OF GROUPS OF FIRMS AND HOW  
8 MANY OF THE FIRMS ENGAGE IN THESE VARIOUS POLICIES AS  
9 BETWEEN THE TWO GROUPS.

10       Q.     IN FAIRNESS TO THE STUDY, ARE YOU FINDING THAT  
11 THEY'RE SKEWING ANY OF THE DATA?

12       A.     SKEWING THE DATA DOESN'T REALLY HAVE A --

13       Q.     OUTCOME ORIENTATION?

14       A.     I HAVE NO WAY TO JUDGE THAT.

15       Q.     ON PAGE ONE OF THE STUDY, THEY TELL US THE  
16 RESEARCH WAS SPONSORED BY KPMG WITH A GROUP CALLED WOMEN  
17 CORPORATE DIRECTORS, RIGHT?

18       A.     UH-HUH.

19       Q.     DOES THAT HELP SIGNAL THAT THIS IS MORE OF A  
20 CONSULTANCY TYPE REPORT AS WELL?

21             MR. SEFERIAN:  OBJECTION, CALLS FOR  
22 SPECULATION.

23             THE COURT:  OVERRULED.

24             THE WITNESS:  SO IT'S INTERESTING.  AND IF I  
25 MAY, I'LL TAKE YOUR QUESTION A LITTLE BIT MORE BROADLY.  
26 SO THIS PAPER IS PUT OUT BY A BERKELEY ENTITY.  SO IT'S  
27 OBVIOUSLY AN ACADEMIC INSTITUTION.

28             HOWEVER, UNIVERSITIES OFTEN HAVE WHAT ARE THE

1 FUNCTIONAL AND EQUIVALENCE OF THINK TANKS THAT OPERATE  
2 WITHIN THE UNIVERSITY. AND IT DEPENDS -- IT DEPENDS HOW  
3 INTEGRATED THEY ARE WITH THE UNIVERSITY.

4 SO SOMETIMES THESE SORT OF QUASI THINK TANKS  
5 ARE RUN BY, SAY, TENURED FACULTY IN THE UNIVERSITY.  
6 THIS ONE, I DON'T BELIEVE IS. AND SO THE FOLKS WHO  
7 WROTE THIS PAPER ARE NOT -- ARE NOT TENURED OR TENURE  
8 TRACK FACULTY AT BERKELEY, SO IT'S A LITTLE BIT HARD TO  
9 SITUATION IN TERMS OF THE ACADEMIC VERSUS NONACADEMIC.

10 THE IDEA THAT THEY DISCLOSE THEIR FUNDING IS  
11 NOT IN AND OF ITSELF PROBLEMATIC. YOU KNOW, MANY  
12 ACADEMICS WILL DISCLOSE THEIR FUNDING. IF I GET A  
13 NATIONAL SCIENCE FOUNDATION GRANT, I DISCLOSE THAT, OR  
14 IF I GET FORD FOUNDATION GRANT, I WOULD DISCLOSE THAT.

15 AND SO THE FACT THAT IT'S KPMG SORT OF FUNDING  
16 IT, IN AND AND ITSELF DOESN'T TELL US A LOT. BUT THE  
17 FACT THAT IT'S -- THAT IT'S DONE BY, YOU KNOW, FOLKS WHO  
18 ARE NOT, SAY, TENURE TRACK FACULTY I WOULD SAY WOULD BE  
19 MORE OF AN INDICATOR. NOW, WHETHER THAT PUSHES INTO THE  
20 CONSULTANCY REALM VERSUS THE ACADEMIC REALM, THAT I'M  
21 NOT WILLING TO SPECULATE ON.

22 Q. BUT THE STUDY ITSELF DOESN'T SHOW YOU THAT THE  
23 LEVEL OF RIGOR YOU WOULD REQUIRE IS NOT THERE.

24 A. IT CERTAINLY IS NOT AN ACADEMIC LEVEL OF RIGOR  
25 EITHER IN ITS PRESENTATION OR ITS METHODS.

26 Q. IS IT POSSIBLE TO ACTUALLY MEASURE WOMEN ON  
27 BOARDS TEND TO CREATE A SUSTAINABLE FUTURE?

28 A. WELL, WE WOULD HAVE TO DEFINE SUSTAINABLE

1 FUTURE, RIGHT? THERE'S A NORMATIVE ASSUMPTION THERE  
2 THAT THESE ESG MEASURES AND THINGS OF THAT NATURE ARE  
3 CONTRIBUTORS TO A SUSTAINABLE FUTURE.

4 SO I WOULDN'T -- I WOULDN'T VENTURE TO SAY CAN  
5 WE USE THESE DATA TO SAY ANYTHING ABOUT SUSTAINABLE  
6 FUTURE, BUT, YOU KNOW, WE MIGHT BE ABLE TO USE THESE  
7 DATA TO SAY SOMETHING ABOUT THE ADOPTION OF THESE  
8 VARIOUS MEASURES.

9 Q. SO IN FAIRNESS TO THE STUDY, AT PAGE FOUR, THEY  
10 TELL US WHAT THE ENVIRONMENTAL ISSUES ARE. SO IF WE  
11 WERE TO DEFINE SUSTAINABLE FUTURE BASED UPON THOSE  
12 ENVIRONMENTAL MEASURES -- OR ENVIRONMENTAL ISSUES, DOES  
13 THAT HELP US CREATE A STUDY?

14 A. SO I DON'T KNOW THAT IT DOES ANYTHING TO CREATE  
15 THE STUDY, BUT IN TERMS OF THE INTERPRETATION OF THE  
16 STUDY OR THE CONCLUSIONS AND THAT SORT OF THING, SURE,  
17 IF WE'RE WILLING TO STIPULATE THAT THESE POLICY CHOICES  
18 CREATE A SUSTAINABLE FUTURE, THEN FINE. THEN THAT'S  
19 WHAT THIS ANALYSIS DOES, OR CAN TRY TO DO AT LEAST.

20 Q. WELL, THEY TELL US THE PURPOSE AT THE TOP OF  
21 PAGE FOUR.

22 "THE PURPOSE OF THIS PARTICULAR STUDY  
23 WAS TO ANALYZE INFORMATION TO IDENTIFY  
24 POSSIBLE RELATIONSHIPS AND TRENDS WHERE  
25 THE PRESENCE OF MORE WOMEN ON THE BOARD  
26 WAS CORRELATED WITH A GREATER CORPORATE  
27 SUSTAINABILITY IN ESG PERFORMANCE."

28 SO IF THAT'S THE PURPOSE OF THE STUDY, WHAT

1 WOULD YOU HAVE DONE DIFFERENTLY?

2 A. WELL, FOR STARTERS, THERE WOULD HAVE TO BE A  
3 SUBSTANTIALLY MORE DISCUSSION OF THE DATA. SO JUST IN  
4 PRESENTATIONAL FORM, I WOULD NEED TO PRESENT MUCH MORE  
5 DISCUSSION OF THE DATA. I WOULD NEED TO PRESENT MUCH  
6 MORE DISCUSSION OF THE METHODOLOGY.

7 THEY SORT OF TALK ABOUT, WELL, WE WERE  
8 COMPARING IN THESE VARIOUS CATEGORIES THE LIKELIHOOD  
9 THAT A FIRM ENGAGES IN THESE VARIOUS POLICIES THAT WE'VE  
10 DEEMED KIND OF GOOD OR USEFUL. BUT THEY MAKE AN  
11 ADMISSION WHERE THEY SAY THERE'S DATA LIMITATIONS. WE  
12 CERTAINLY COULDN'T DO ANYTHING LIKE REGRESSIONS OR  
13 ANYTHING LIKE THAT.

14 LIKewise, EVEN FOR THE SORT OF DESCRIPTIVE  
15 PRESENTATIONS THAT THEY MAKE, THERE'S NO DISCUSSION OF  
16 STATISTICAL SIGNIFICANCE.

17 IN FACT THEY DON'T REALLY EVEN PRESENT SORT OF  
18 THE MAGNITUDES OF THE EFFECTS THAT THEY'RE ESTIMATING.  
19 THEY'RE JUST SAYING IT'S MORE IN THIS GROUP THAN IN THAT  
20 GROUP AND THINGS LIKE THAT.

21 Q. SO WHEN THEY TELL US THERE'S LIMITATIONS IN THE  
22 DATA, THAT THEY CAN NOT DO THE REGRESSION ANALYSIS, THAT  
23 WOULD BE THE SAME LIMITATION IF WE WERE ASKING YOU TO DO  
24 SUCH A STUDY, RIGHT?

25 A. YEAH. IT'S HARD TO SAY BECAUSE I'VE NEVER  
26 LOOKED AT THE DATA THEY SORT OF DISCUSSION THAT THEY'RE  
27 USING.

28 YOU KNOW, SO -- AND THIS MAY BE PERHAPS TOO

1 TECHNICAL -- IMAGINE YOU'VE GOT A DATA SET THAT AT LEAST  
2 YOU HAVE SOME INFORMATION FOR 10,000 FIRMS, BUT IN TERMS  
3 OF ALL THE VARIABLES MAYBE YOU ONLY HAVE COMPLETE  
4 VARIABLES FOR 2,000 OF THE FIRMS.

5 THERE IS SOME INVESTIGATION THAT ONE COULD DO  
6 AS TO WHETHER OR NOT IT WOULD BE REASONABLE OR VALID TO  
7 JUST DO A MORE COMPLETE ANALYSIS OF THE 2,000 FIRMS THAT  
8 HAS FULL DATA VERSUS HAVING AN INCOMPLETE ANALYSIS OF  
9 THE FULL SET OF FIRMS. BUT WE'RE NOT PROVIDED WITH  
10 ENOUGH INFORMATION TO EVEN VENTURE A GUESS ON THOSE  
11 SORTS OF THINGS.

12 SO I GUESS THAT'S A LONG-WINDED WAY OF  
13 ANSWERING YOUR QUESTION AND SAYING THERE'S JUST NOT  
14 ENOUGH INFORMATION FOR ME TO SAY WHETHER OR NOT I COULD  
15 HAVE DONE ANYTHING MORE WITH THESE DATA OR NOT.

16 Q. IS THIS SIMPLY A COMPARISON OF FIRMS WITH WOMEN  
17 ON BOARDS AND FIRMS WITHOUT WOMEN ON BOARDS?

18 A. FOR THE MOST PART. ALTHOUGH LIKE I SAID, THEIR  
19 DISCUSSION OF WHAT EXACTLY THEY'RE DOING IS NOT --  
20 CERTAINLY NOT COMPLETE, AND IT'S NOT EVEN VERY CLEAR.

21 Q. IN YOUR EXPERT OPINION, IS THIS PARTICULAR  
22 STUDY RELIABLE FOR THE FINDING THAT IS SET FORTH IN  
23 PARAGRAPH SECTION (1) (C) (3) OF THE STATUTE?

24 A. SO I MEAN, IT DEPENDS HOW YOU PARSE THE  
25 LANGUAGE. IT SAYS, "THIS STUDY FOUND THAT COMPANIES  
26 WITH MORE WOMEN," ET CETERA, ET CETERA, WHICH IS WHAT  
27 THE STUDY SAYS IT FOUND, SO THAT'S SORT OF AN ACCURATE  
28 STATEMENT.

1           BUT IF WE'RE DEFINING FOUND AS PROVIDES  
2 COMPELLING OR MORE RELIABLE EVIDENCE OF DIFFERENCES,  
3 CAUSAL DIFFERENCES FOR SURE, NO, IT DOESN'T DO ANYTHING  
4 LIKE THAT.

5           Q.    AFTER READING THIS STUDY, WOULD YOU SAY THAT IT  
6 FOUND THOSE THINGS?

7           A.    NO.   NO.

8           Q.    LET'S TURN NOW TO EXHIBIT 247.

9           ARE YOU FAMILIAR WITH THIS PARTICULAR STUDY,  
10 PROFESSOR?

11          A.    I AM, YES.

12          Q.    IS THIS THE STUDY THAT IS MENTIONED IN SECTION  
13 (1) (C) (4) OF THE STATUTE?

14          A.    YES.   IT IS.

15          Q.    WHAT DID THE STATUTE TELL US ABOUT THIS STUDY?

16          A.    (READING:)

17                "CREDIT SUISSE CONDUCTED A SIX-YEAR  
18 GLOBAL RESEARCH STUDY FROM 2006 TO 2012  
19 WITH MORE THAN 2,000 COMPANIES  
20 WORLDWIDE SHOWING THAT WOMEN ON BOARDS  
21 IMPROVED BUSINESS PERFORMANCE FOR KEY  
22 METRICS INCLUDING STOCK PERFORMANCE.

23                "FOR COMPANIES WITH A MARKET  
24 CAPITALIZATION OF MORE THAN 10 BILLION,  
25 THOSE WITH WOMEN DIRECTORS ON BOARDS  
26 OUTPERFORMED SHARES OF COMPARABLE  
27 BUSINESSES WITH ALL MALE BOARDS BY  
28 26 PERCENT."

1           AND THEN IT GIVES A BUNCH OF OTHER ANCILLARY  
2 FINDINGS.

3           Q.     SO ON THE SURFACE OF THAT FIRST PARAGRAPH IN  
4 (C) (4), WHAT DOES IT MEAN BY SHARES? DOES IT MEAN STOCK  
5 SHARES, STOCK --

6           A.     YES, I BELIEVE. YES.

7           Q.     AGAIN, BACK TO MY EARLIER COMMENT, NOT TO BE  
8 FLIP, BUT IF I'M THE CHAIRMAN OF A BOARD, I SEE THIS  
9 STATEMENT, WOW, THEY OUTPERFORM -- THEIR SHARES  
10 OUTPERFORM BY 26 PERCENT, AM I READY TO RUN OUT AND DO  
11 THIS THING AND LOAD UP MY BOARD WITH WOMEN?

12           MR. SEFERIAN: OBJECTION, INCOMPLETE  
13 HYPOTHETICAL, BEYOND THE SCOPE OF EXPERTISE.

14           THE COURT: OVERRULED.

15           THE WITNESS: ON THE BASIS OF THESE FINDINGS,  
16 NO, IT WOULD BE PREMATURE TO MAKE A DECISION BASED ON  
17 THAT.

18           BY MR. STICHT:

19           Q.     AND JUST TO THE OBJECTION THAT WAS JUST MADE,  
20 YOU HAVE REVIEWED THIS STUDY, CORRECT?

21           A.     I HAVE.

22           Q.     YOU'VE ANALYZED IT SEPARATELY, AS I ASKED YOU,  
23 BEFORE GOING INTO THESE STUDIES, RIGHT?

24           A.     I HAVE, YES.

25           Q.     SO YOU'RE FAMILIAR WITH HOW THEY WENT ABOUT  
26 THEIR WORK; IS THAT RIGHT?

27           A.     YES. THAT'S CORRECT.

28           Q.     SO I TOOK THAT AS A GIVEN IN MY QUESTION TO

1 YOU.

2 SO TELL US HOW THEY REACHED THIS 26 PERCENT IN  
3 THE MODEL THAT YOU'VE GIVEN US TO THINK ABOUT.

4 A. AGAIN, IT'S BROADLY JUST DESCRIPTIVE  
5 COMPARISONS.

6 Q. DOES IT MATTER TO YOU THAT IT RAN FOR SIX  
7 YEARS?

8 A. WELL, SO IN PRINCIPLE, IF ONE USED THE PANEL  
9 DATA METHODS THAT WE BEGAN TODAY SPEAKING ABOUT, IT  
10 COULD, RIGHT. SO IF YOU COULD USE THOSE FIXED EFFECTS  
11 TYPE MODELS AND THINGS OF THAT NATURE, AND IF YOU WERE  
12 ABLE TO FIND A SHOCK TO DO NATURAL EXPERIMENTS, HAVING  
13 SORT OF THAT LONG SPAN MIGHT PROVIDE YOU AT LEAST SOME  
14 OF THE NECESSARY CONDITIONS TO DO THOSE MORE  
15 SOPHISTICATED ANALYSES, BUT THOSE ARE NOT DONE HERE.

16 Q. DID THEY HAVE THE DATA TO DO THAT?

17 A. WELL, THEY HAD PANEL DATA, FOR SURE. AND THEY  
18 KNEW SOME OF THE, SAY, CONTROLLED VARIABLES THAT ONE  
19 WOULD INCLUDE IN THEIR REGRESSION. BUT WHETHER OR NOT  
20 THERE WERE SHOCKS, NATURAL EXPERIMENTS TO EXAMINE WHAT  
21 HAPPENS WHEN THE NUMBER OF WOMEN ON A BOARD CHANGE, YOU  
22 KNOW, WE'D HAVE TO LOOK IN INDIVIDUAL COUNTRIES OR WE'D  
23 HAVE TO LOOK IN INDIVIDUAL TIME PERIODS TO SEE WHAT  
24 SHOCKS MIGHT HAVE BEEN AVAILABLE. BUT THERE'S NOTHING  
25 LIKE THAT IN THIS STUDY.

26 Q. AND DOES IT MATTER TO YOU THAT THIS WAS 2,000  
27 COMPANIES WORLDWIDE?

28 A. WELL, STATISTICALLY IF WE START OFF WITH THE

1 ASSUMPTION THAT MORE IS BETTER, SURE, 2,000 IS BETTER  
2 THAN FIVE. IT'S NOT AS GOOD AS 10,000.

3 BUT PART OF THE WAY THAT THEY GET TO 2,000, AND  
4 THEY'RE UP FRONT ABOUT THIS, IS THAT THEIR MIXING  
5 TOGETHER FIRMS FROM ALL SORTS OF DIFFERENT INDUSTRIES  
6 AND DIFFERENT JURISDICTIONS AND THINGS OF THAT NATURE,  
7 WHICH AGAIN, EVEN IF WE -- EVEN IF WE'RE JUST GOING TO  
8 RELY ON A REGRESSION METHODOLOGY, YOU WOULD WANT TO  
9 ACCOUNT FOR THOSE DIFFERENCES. AND THEY DON'T GENERALLY  
10 DO THINGS LIKE THAT.

11 Q. IF THERE'S LEGISLATURE AND YOU WANT TO INJECT A  
12 SHOCK INTO A PARTICULAR JURISDICTION, YOU WOULD TRY TO  
13 ACCOUNT FOR THOSE, WOULD YOU NOT?

14 MR. SEFERIAN: OBJECTION, BEYOND THE SCOPE OF  
15 EXPERTISE.

16 THE COURT: OVERRULED.

17 THE WITNESS: I GUESS I WOULD PUT IT A LITTLE  
18 BIT DIFFERENTLY. IN GENERAL JURISDICTIONS, I MEAN --  
19 WELL, DEPENDS ON THE -- DEPENDS ON THE CONSTITUTIONAL  
20 ADMINISTRATIVE LAW BACKGROUND OF THE JURISDICTION, BUT  
21 IN MANY JURISDICTIONS, THE U.S. WOULD BE LIMITED IN ITS  
22 ABILITY TO RUN SORT OF NATURAL EXPERIMENTS OR FIELD  
23 EXPERIMENTS.

24 NOT IMPOSSIBLE. THERE HAVE BEEN EXAMPLES. BUT  
25 IT'S SORT OF TRICKY. SO I WOULDN'T NECESSARILY SAY, OH,  
26 THE JURISDICTION SHOULD BE RUNNING THESE EXPERIMENTS,  
27 BUT WHAT I WOULD SAY IS I THINK A JURISDICTION HOPEFULLY  
28 WOULD BE COGNIZANT OF THE IDEA THAT THERE ARE BETTER

1 RESEARCH DESIGNS AND WORSE RESEARCH DESIGNS AND WOULD  
2 HOPEFULLY PUT GREATER WEIGHT ON THE BETTER RESEARCH  
3 DESIGNS.

4 BY MR. STICHT:

5 Q. WHERE DOES THIS ONE FALL?

6 A. MUCH LIKE THE EARLIER REPORTS WE'VE DISCUSSED  
7 TODAY, IT'S STILL IN THE DESCRIPTIVE STATISTICS REALM OF  
8 THINGS. SO NOT MUCH OF RESEARCH DESIGN. RELATIVELY  
9 LOW-WEIGHT, LOW-CONFIDENCE RESEARCH DESIGN.

10 Q. NOW, IF YOU LOOK AT PARAGRAPH SECTION  
11 (1) (C) (5) (A), THEY LIST FOUR PARTICULAR FINDINGS THAT  
12 WERE INCLUDED IN THIS REPORT.

13 WHAT WAS (A)?

14 A. "THERE'S BEEN A GREATER CORRELATION BETWEEN  
15 STOCK PERFORMANCE AND THE PRESENCE OF WOMEN ON A BOARD  
16 SINCE THE FINANCIAL CRISIS IN 2008."

17 Q. SO WHAT -- FIRST OF ALL, WHAT DOES IT MEAN, A  
18 GREATER CORRELATION?

19 A. SO I THINK THAT'S A GOOD QUESTION.

20 WHAT THEY MEAN BASED ON WHAT THEY HAVE IN THE  
21 REPORT IS SORT OF A LARGER DIFFERENCE BETWEEN THE GROUPS  
22 OF FIRMS THAT HAVE WOMEN ON THE BOARD AND DON'T.

23 SO IF YOU'RE COMPARING THE TWO GROUPS  
24 ESSENTIALLY WHAT THIS IS SAYING IS THE DIFFERENCE BEFORE  
25 2008 IS SMALLER THAN THE DIFFERENCE AFTER 2008.

26 Q. DID THEY LOOK BEFORE AND AFTER?

27 A. IN TERMS OF THEIR DESCRIPTIVE STATISTICS, SURE,  
28 THEY LOOKED AT SOME OF THE COMPARISONS IN THE EARLIER

1 PERIOD AND IN THE LATER PERIOD.

2           HOWEVER, I WANT TO RAISE THE CONCERN AGAIN,  
3 HERE IT WOULD BE SORT OF COMPARING THE DIFFERENCES  
4 BEFORE AND AFTER THEY PROVIDE -- THEY STILL PROVIDE NO  
5 WAY FOR US TO ASSESS STATISTICAL SIGNIFICANCE AND  
6 WHETHER OR NOT THE DIFFERENCE OR THE CHANGE IN THE  
7 DIFFERENCE IS REALLY ANYTHING MORE THAN JUST RANDOM  
8 VARIATION.

9           Q.    BUT AGAIN, IN THE FINDINGS THEY ONLY GIVE US IN  
10 PARAGRAPH (A) THE WORDS GREATER CORRELATION, RIGHT?  
11 THEY DON'T GIVE US NUMERICAL FIGURES?

12           A.    CORRECT.

13           Q.    WHAT ROLE, IF ANY -- WHY DO THEY EMPHASIZE THE  
14 FINANCIAL CRISIS IN 2008?

15           A.    IT'S A BIT OF A PUZZLE.

16                   IT'S NOT AT ALL CLEAR WHY ONE MIGHT PUT SPECIAL  
17 WEIGHT ON THE PERIOD AFTER THE FINANCIAL CRISIS THAN  
18 BEFORE, OTHER THAN THE FACT THAT IT'S JUST MORE RECENT.  
19 WE MIGHT WEIGHT MORE RECENT EVIDENCE HIGHER.

20                   BUT THERE'S NOTHING SORT OF MAGICAL ABOUT AFTER  
21 THE FINANCIAL CRISIS.

22           Q.    SO WE'RE NOT TO DRAW THE CONCLUSION, IN YOUR  
23 OPINION, THAT THE FINANCIAL CRISIS ACTUALLY HAD AN  
24 EFFECT ON THE GREATER CORRELATION, AS THEY CALL IT?

25           A.    WELL, CERTAINLY THERE'S NOTHING IN THE REPORT  
26 TO VALIDATE THAT CLAIM.

27           Q.    AND THE GREATER CORRELATION, DOES THAT MEAN  
28 CAUSATION?

1           A.     NO.   FOR EXAMPLE, JUST TO GIVE A CONCRETE  
2   ALTHOUGH CONTRIVED EXAMPLE, YOU KNOW, EVERY MORNING WHEN  
3   YOU WAKE UP THE SUN IS IN THE SKY.  DID YOU WAKING UP  
4   CAUSE THE SUN TO RISE?  THAT CORRELATION IS AS GOOD AS  
5   ANY CORRELATION ONE COULD IMAGINE, BUT OF COURSE IT'S  
6   NOT CAUSAL.

7           THE COURT:  COUNSEL, WE'LL BE IN RECESS UNTIL  
8   1:30.  THANK YOU VERY MUCH.

1 CASE NO: 19STCV27561  
2 CASE NAME: CREST V. PADILLA  
3 LOS ANGELES, CALIFORNIA THURSDAY, JANUARY 13, 2022  
4 DEPARTMENT 38 HON. MAUREEN DUFFY-LEWIS, JUDGE  
5 REPORTER: SANDRA GUERRA, CSR 10977  
6 APPEARANCES: (AS HERETOFORE NOTED.)  
7 TIME: AFTERNOON SESSION  
8

9 (THE FOLLOWING PROCEEDINGS WERE HELD IN  
10 OPEN COURT.)  
11

12 THE COURT: WE'RE NOW BACK ON THE RECORD IN THE  
13 MATTER THAT WE'RE CURRENTLY IN TRIAL ON. I'LL NOTE FOR  
14 THE RECORD THAT ALL COUNSEL ARE PRESENT AND OUR WITNESS  
15 WILL BE RETAKING THE WITNESS STAND.

16 IF YOU KINDLY STEP FORWARD AND RETAKE THE  
17 WITNESS STAND.

18 ONCE AGAIN IF YOU CAN KINDLY STATE YOUR NAME  
19 FOR THE RECORD.

20 THE WITNESS: JONATHAN KLINK.

21 THE COURT: AND YOU ARE STILL UNDER OATH AS  
22 PREVIOUSLY SWORN. DO YOU UNDERSTAND?

23 THE WITNESS: YES, YOUR HONOR.

24 THE COURT: THANK YOU.

25 COUNSEL, YOU MAY CONTINUE WITH YOUR DIRECT  
26 EXAMINATION.

27 MR. STICHT: THANK YOU, YOUR HONOR.  
28

## DIRECT EXAMINATION (CONTINUED)

BY MR. STICHT:

Q. PROFESSOR KLINK, WOULD YOU KINDLY TURN TO EXHIBIT 248 IN YOUR BINDER.

DO YOU RECOGNIZE THIS STUDY?

A. YES, I DO.

Q. AND IS THIS THE -- BEFORE WE DO THAT, PLEASE GO BACK JUST FOR A MOMENT TO 247.

AND THEN DO YOU HAVE SB-826 IN FRONT OF YOU, WHICH IS THE STATUTE?

IF YOU TAKE A LOOK FOR JUST A MOMENT SECTION (1) (C) (5).

WE TALKED ABOUT SUB PARAGRAPH 5 (A).

A. HOLD ON A SECOND. I GOT MYSELF OUT OF ORDER HERE.

Q. ON PAGE TWO OF TRIAL EXHIBIT 12.

THE COURT: COULD YOU JUST WALK RIGHT UP AND SHOW HIM WHAT IT IS?

MR. STICHT: YES, THANK YOU.

BY MR. STICHT:

Q. SO PAGE TWO OF TRIAL EXHIBIT 12 HAS SUBSECTION (C) (5), AND THEN THERE'S (A), (B), (C) AND (D).

A. UH-HUH.

Q. JUST TO FINISH UP WITH B), (C) AND (D) QUICKLY, IN (B), THE LEGISLATURE SAID THAT THE CREDIT SUISSE REPORT IN EXHIBIT 247 INCLUDED A FINDING THAT COMPANIES WITH WOMEN ON THEIR BOARDS OF DIRECTORS SIGNIFICANTLY OUTPERFORMED OTHERS WHEN THE RECESSION OCCURRED.

1           IS THAT A FAIR STATEMENT OF THE STUDY?

2           A.    YES, IT INDICATES THAT COMPANIES WITH MORE  
3 WOMEN ON THE BOARD DID BETTER IN THE POST-2008 PERIOD.

4           Q.    WHAT DOES SIGNIFICANTLY OUTPERFORMED MEAN?

5           A.    THEY'RE NOT USING IT AS A STATEMENT OF  
6 STATISTICAL SIGNIFICANCE.  THEY'RE JUST USING IT  
7 COLLOQUIALLY, I ASSUME, TO MEAN MORE, BIGGER, SOMETHING  
8 LIKE THAT.

9           Q.    RIGHT.  AND THEN IF YOU CAN JUST MOVE THAT MIKE  
10 JUST A LITTLE CLOSER TO YOURSELF?

11          A.    SURE.

12          Q.    ON THE BASE.

13                SUBPARAGRAPH (C) STATES, "COMPANIES WITH WOMEN  
14 ON THEIR BOARDS TEND TO BE SOMEWHAT RISK AVERSE AND  
15 CARRY LESS DEBT ON AVERAGE."

16                IS THAT A FAIR SUMMARY OF THE FINDING IN THE  
17 CREDIT SUISSE REPORT?

18          A.    IT IS, YES.

19          Q.    AND WHAT DOES THAT MEAN, RISK AVERSION, IN  
20 TERMS OF THAT STUDY?

21          A.    AGAIN, THEY'RE NOT USING IT IN A TECHNICAL  
22 SENSE.  SO IN SOCIAL SCIENCE AND ECONOMICS AND  
23 PSYCHOLOGY, RISK AVERSION HAS AN ACTUAL MEANING.  THIS  
24 IS NOT THAT.  THEY'RE USING IT TO SIMPLY MEAN THAT THE  
25 COMPANIES ARE EXHIBITING CARRYING LESS RISK.

26          Q.    WELL, LET'S JUST TRY TO IRON THAT OUT.

27          A.    SURE.

28          Q.    SO WHAT'S THE TECHNICAL MEANING OF RISK

1 AVERSION?

2 A. THE REALLY TECHNICAL MEANING OF RISK AVERSION  
3 IS THAT PEOPLE HAVE CONCAVE UTILITY FUNCTIONS, BUT WHAT  
4 THAT EFFECTIVELY MEANS IN ENGLISH IS THAT PEOPLE ARE  
5 WILLING TO PAY TO AVOID VARIANCE OR VOLATILITY.

6 SO, FOR EXAMPLE, IF WE HAVE TWO OPTIONS IN  
7 FRONT OF US, ONE IS, ROBERT, I JUST GIVE YOU \$10, VERSUS  
8 THE SECOND OPTION IS, ROBERT, I FLIP A COIN AND IF IT  
9 COMES UP HEADS I GIVE YOU \$20, BUT IF IT COMES UP TAILS  
10 I GIVE YOU ZERO. IN EXPECTED VALUE TERMS, THOSE BOTH  
11 EQUAL \$10, RIGHT?

12 ONE IS CLEARLY \$10. YOU GET \$10 100 PERCENT OF  
13 THE TIME. THE SECOND TIME YOU GET \$20 50 PERCENT OF THE  
14 TIME AND ZERO DOLLARS 50 PERCENT OF THE TIME, WHICH  
15 LEADS ARITHMETICALLY TO AN EXPECTED VALUE OF \$10.

16 SO THOSE APPEAR TO BE EQUIVALENT, BUT OF COURSE  
17 THERE'S MORE VARIATION IN THE SECOND OPTION. SO RISK  
18 AVERSION MEANS IF YOU'RE ASKED TO PAY FOR THE RIGHT TO  
19 HAVE ONE OF THOSE TWO OPTIONS, YOU WOULD BE WILLING TO  
20 PAY MORE FOR THE FIRST OPTION THAT HAS LESS VARIANCE.

21 Q. AND AS IT'S USED IN THE STUDY, WHAT DOES IT  
22 MEAN?

23 A. IT JUST SIMPLY MEANS THAT THE COMPANIES EXHIBIT  
24 LESS RISK, LESS VOLATILITY.

25 Q. IN TERMS OF DEFINED TERMS OR --

26 A. I WOULD HAVE TO GO BACK AND CHECK SPECIFICALLY  
27 WHAT THEY'RE USING, BUT ESSENTIALLY I THINK IT MEANS  
28 LESS VARIANCE IN THE RETURNS.

1 Q. IS THE RISK AVERSE SEPARATE FROM THE CARRY LESS  
2 DEBT?

3 A. THEY SORT OF COMBINED THE TWO. THEY SORT OF  
4 HAVE THIS ASSUMPTION THAT DEBT IS RISKIER, WHICH IS  
5 NOT -- WHICH IS NOT A GENERALLY ACCEPTED DEFINITION IN  
6 FINANCE, BUT I THINK IT IS PROBABLY A CONVENTIONAL  
7 DEFINITION AMONG THE GENERAL PUBLIC.

8 Q. ON AVERAGE, IS THAT, AGAIN, A MAIN MEANS  
9 OR DESCRIPTIVE STATISTICAL STATEMENT IN THE STUDY?

10 A. YES, IT'S AVERAGES, SO THEY ARE DESCRIPTIVE  
11 STATISTICS.

12 Q. AND THEN ON (D), NET INCOME GROWTH FOR  
13 COMPANIES WITH WOMEN ON THEIR BOARDS AVERAGED 14 PERCENT  
14 OVER A SIX-YEAR PERIOD COMPARED WITH 10 PERCENT FOR  
15 COMPANIES WITH NO WOMEN DIRECTORS. IS THAT THE FINDING  
16 IN THE STUDY?

17 A. YES, IT IS.

18 Q. AND WHAT IS THE RELIABILITY OF THAT FINDING IN  
19 THE STUDY?

20 A. WELL, AGAIN, WE HAVE SORT OF BOTH COMPONENTS  
21 THAT HAVE SORT OF BEEN A THEME TODAY. THERE'S NO  
22 DISCUSSION OF WHETHER THAT DIFFERENCE IS STATISTICALLY  
23 SIGNIFICANT. AND ALSO THERE IS NO ATTEMPT TO ADJUST FOR  
24 OTHER DIFFERENCES ACROSS THE TWO GROUPS.

25 Q. OKAY. IN YOUR EXPERT OPINION, IS THE CREDIT  
26 SUISSE REPORT, WHICH IS EXHIBIT 247, RELIABLE BASED UPON  
27 THE METHODOLOGY?

28 A. IN TERMS OF ANY CAUSAL RELATIONSHIP, NO, IT

1 DOESN'T RELIABLY IDENTIFY ANY CAUSAL RELATIONSHIP.

2 Q. AND SO DOES THAT MEAN THAT WHILE, FOR EXAMPLE,  
3 IN SUBSECTION (D) THERE'S A 14 PERCENT VERSUS  
4 10 PERCENT, PUTTING ASIDE YOUR STATISTICAL SIGNIFICANCE  
5 COMMENT, DOES THAT MEAN THAT WE SHOULDN'T DRAW AN  
6 INFERENCE THAT THERE'S A CAUSAL LINK THAT HAVING WOMEN  
7 ON THE BOARD CAUSED THAT DIFFERENCE?

8 A. CORRECT.

9 Q. ALL RIGHT. NOW LET'S TURN TO EXHIBIT 248.  
10 AND I THINK YOU TOLD US ALREADY YOU DO  
11 RECOGNIZE THIS STUDY.

12 A. CORRECT. YES.

13 Q. IS THIS A STUDY LISTED ON TRIAL EXHIBIT 12,  
14 PAGE THREE, AT SUBSECTION (1) (E)? IN OTHER WORDS, THE  
15 SECOND PARAGRAPH AT THE TOP OF PAGE THREE.

16 A. YES, CORRECT, IT IS.

17 Q. AND JUST QUICKLY, WHAT DID THE LEGISLATURE  
18 REPORT ITS FINDING TO BE IN THAT SUBSECTION?

19 A. IT SAYS:

20 " ONE-FOURTH OF CALIFORNIA'S PUBLIC  
21 COMPANIES IN THE RUSSELL 3000 INDEX  
22 HAVE NO WOMEN ON THE BOARDS OF  
23 DIRECTORS. AND FOR THE REST OF THE  
24 COMPANIES, WOMEN HOLD ONLY 15.5 PERCENT  
25 OF THE BOARD SEATS. A 2017 REPORT  
26 BEING PREPARED BY BOARD GOVERNANCE  
27 RESEARCH, LLC CONDUCTED BY UNIVERSITY  
28 OF SAN DIEGO PROFESSOR ANNALISA BARRETT

1 FOUND THE FOLLOWING."

2 Q. AND THEN THERE ARE FOUR SUBHEADINGS, CORRECT?

3 A. YES, CORRECT.

4 Q. SO AS TO THE FIRST, YOU HAVE ANALYZED THIS  
5 PARTICULAR STUDY?

6 A. CORRECT. YES.

7 Q. SO AS TO THE FIRST SUBHEADING THERE ABOUT THE  
8 446 PUBLICLY TRADED COMPANIES. "INCLUDED IN THE RUSSELL  
9 3000 INDEX AND HEADQUARTERED IN CALIFORNIA, WOMEN  
10 DIRECTORS HELD 566 SEATS, OR 15.5 PERCENT OF SEATS, AND  
11 MEN HELD 84.5 PERCENT."

12 IS THAT A FAIR STATEMENT OF THE STUDY ITSELF?

13 A. YES, I BELIEVE SO.

14 Q. NOW, IS THAT JUST DATA?

15 A. IT IS DATA. SO IT'S PRESENTING NUMBERS LIKE  
16 THAT AND THEN IT'S DOING SOME ATTEMPT TO FURTHER  
17 SUBDIVIDE THOSE NUMBERS BY, FOR EXAMPLE, INDUSTRY. I  
18 BELIEVE IT ALSO DOES SORT OF COUNTIES AND THINGS OF THAT  
19 NATURE. YES.

20 Q. AND THE SAME THING WITH SUBHEADING NO. 2, WHERE  
21 THEY STATE THAT, "26 PERCENT OF THE RUSSELL 3000  
22 COMPANIES IN CALIFORNIA HAVE NO WOMEN DIRECTORS"?

23 A. YES.

24 Q. THAT'S JUST A DATA POINT?

25 A. YES. THIS WHOLE REPORT IS MOSTLY JUST  
26 DESCRIPTIVE DATA.

27 Q. OKAY. SO YOUR ANSWER WOULD BE THE SAME WITH  
28 RESPECT TO SUBHEADINGS (3) AND (4)?

1       A.     YEAH, THAT'S CORRECT.

2       Q.     AND THIS STUDY IN TERMS OF WHAT YOU TOLD US  
3     ALREADY ABOUT THE PREVIOUS FOUR STUDIES, IS THERE  
4     ANYTHING UNIQUE ABOUT THIS OR DOES IT ALSO FIT WITHIN  
5     YOUR TESTIMONY ON THE OTHER?

6       A.     I SUPPOSE IT'S A LITTLE BIT DIFFERENT IN THAT  
7     THIS STUDY REALLY DOES JUST PRESENT ITSELF AS A PURELY  
8     DESCRIPTIVE STUDY. IT'S INDICATING WHAT THE NUMBERS  
9     LOOK LIKE IN CALIFORNIA AND NOT REALLY DRAWING ANY  
10    RELATIONSHIP WITH ANY OUTCOME VARIABLES.

11    Q.     LET'S TAKE A LOOK AT EXHIBIT 249.

12    A.     YES.

13    Q.     ARE YOU FAMILIAR WITH THIS STUDY, SIR?

14    A.     I AM. YES.

15    Q.     IS THIS THE STUDY THAT YOU FIND REFERENCED IN  
16    THE STATUTE AT SUBDIVISION (F) ON PAGE THREE?

17    A.     YES. AT SECTION 1.

18    Q.     THE GAO STUDY, RIGHT?

19    A.     CORRECT.

20    Q.     SO THE LEGISLATURE STATED AT THE BEGINNING OF  
21    PARAGRAPH OF SUBHEADING (F), "MEASURES ARE TAKEN TO  
22    PROACTIVELY INCREASE THE NUMBERS OF WOMEN SERVING ON  
23    BOARDS. IT COULD TAKE DECADES -- AS MANY AS 40 OR 50  
24    YEARS TO OBTAIN GENDER PARITY AMONG DIRECTORS,"  
25    INCLUDING, AND THEN THEY GIVE FOUR STUDIES.

26            AND YOU JUST CITED TO THIS ONE AS THE FIRST  
27    ONE.

28            EXCUSE ME, THREE STUDIES.

1           SO WHAT DOES THAT MEAN IN TERMS OF THIS STUDY?  
2   HOW DID THIS STUDY DETERMINE 40 TO 50 YEARS?

3           A.    SO THIS STUDY LOOKED AT THE EVOLUTION OF WOMEN  
4   ON BOARDS IN -- I BELIEVE THE STUDY USES THE S&P 1500 --  
5   LOOKS AT FIRMS IN THAT CATEGORY AND LOOKS AT HOW MANY  
6   WOMEN ARE -- OR WHAT FRACTION OF A BOARD IS COMPOSED OF  
7   FEMALE BOARD MEMBERS OVER THE PERIOD 1997 TO 2014 AND  
8   FOUND THAT THERE WAS A GROWTH FROM 8.3 PERCENT TO  
9   15.5 PERCENT.

10           IT ALSO THEN DID SOME DISCUSSION OF THE  
11   REPLACEMENT OF NEW MEMBERS RATHER THAN SORT OF THE  
12   STEADY STATE FRACTION OF FEMALE MEMBERS. IT LOOKED AT  
13   SORT OF WHEN NEW SEATS OPENED, WHAT'S THE LIKELIHOOD  
14   THAT IT'S FILLED BY A WOMAN BOARD MEMBER.

15           AND THEN WHAT IT DOES IS IT SORT OF LOOKS OVER  
16   THE TIME PERIOD AND DECIDES THAT IN THIS TIME PERIOD  
17   THERE WERE A CERTAIN NUMBER OF SEATS THAT COME OPEN ON  
18   AVERAGE EVERY YEAR. AND THEN IN TERMS OF ITS  
19   PROJECTIONS, IT BASICALLY SAYS LET'S ASSUME GOING  
20   FORWARD THAT SEATS ARE REPLACED AT PARITY. SO  
21   50 PERCENT LIKELIHOOD OF MEN, 50 PERCENT LIKELIHOOD OF  
22   WOMEN.

23           AND THEN IT SIMPLY ASKS UNDER THAT ASSUMPTION  
24   GIVEN HOW MANY SEATS ON AVERAGE TEND TO OPEN UP, HOW  
25   MANY YEARS WILL IT TAKE TO REACH PARITY IN OVERALL  
26   BOARDS IN THAT S&P 1500.

27           Q.    PLEASE DESCRIBE HOW RIGOROUS THIS STUDY IS.

28           A.    SO THIS STUDY IS SORT OF MAKING THE ASSUMPTION

1 THAT THE NUMBER OF BOARD SEATS THAT BECOME AVAILABLE  
2 GOING FORWARD WILL MATCH SORT OF THE AVERAGE IN THE  
3 PAST. IT'S ALSO MAKING SORT OF AN ASSUMPTION ABOUT HOW  
4 THE SEATS WILL BE FILLED. AND IT'S VERY CLEAR ABOUT  
5 THOSE ASSUMPTIONS.

6 I SUPPOSE EVERY ONE OF THOSE ASSUMPTIONS COULD  
7 BE CONTESTED, BUT I'M NOT SO SURE THEY'RE TERRIBLY  
8 PERCEPTIVE AT THINKING ABOUT THE ISSUE.

9 Q. AND IN YOUR MODEL THAT YOU PRESENTED ON HOW  
10 SOCIAL SCIENCE NOW DOES STATISTICAL ANALYSIS, IN  
11 DESIGNING STUDIES AND THE METHODOLOGY OF THOSE STUDIES  
12 WHERE DOES THIS PARTICULAR STUDY FIT?

13 A. SO IT'S A LITTLE BIT DIFFERENT. NOW, THERE ARE  
14 SOME COMMONALITIES. THEY ARE OBVIOUSLY USING DATA.  
15 THEY'RE OBVIOUSLY PROVIDING SOME DESCRIPTIVE STATISTICS.  
16 AND IN THAT REGARD, SOME LIMITATIONS ARE THAT THEY DON'T  
17 PROVIDE ESTIMATES OF THE STANDARD ERRORS, THE  
18 UNCERTAINTY OF THESE ESTIMATES. YOU WOULD LIKE TO SEE  
19 THAT IN SORT OF A MORE COMPLETE PRESENTATION.

20 BUT BEYOND THAT, THIS PAPER IS DOING SOMETHING  
21 DIFFERENT THAN PAPERS THAT WE'VE STUDIED OR TALKED ABOUT  
22 PREVIOUSLY. THIS PAPER IS ATTEMPTING TO SORT OF USE  
23 SOME DATABASED ASSUMPTIONS TO MAKE A PROJECTION ABOUT  
24 THE FUTURE, WHICH WE REALLY HAVEN'T TALKED ABOUT  
25 PREVIOUSLY. BUT THAT'S WHAT THIS PAPER DOES.

26 Q. SO DO WE HAVE TO ACCEPT THOSE ASSUMPTIONS TO  
27 ACCEPT THE 40 TO 50-YEAR CONCLUSION?

28 A. YES.

1 Q. AND IN YOUR EXPERT OPINION SHOULD WE ACCEPT  
2 THOSE ASSUMPTIONS?

3 MR. SEFERIAN: OBJECTION, CALLS FOR  
4 SPECULATION.

5 THE COURT: OVERRULED.

6 THE WITNESS: SO THIS IDEA OF USING YOUR MODEL,  
7 WHETHER IT'S A STATISTICALLY BASED MODEL OR A MODEL  
8 BASED ON SOMETHING ELSE, WHAT WE OFTEN DO IS WE ASK THE  
9 QUESTION OF ONCE WE'VE POSITED OR ESTIMATED THE MODEL,  
10 WE THEN SEE HOW WELL IT SORT OF PREDICTS GOING FORWARD.

11 SO WHERE THEIR MODEL ESTIMATE STOPS AT 2014, WE  
12 OBVIOUSLY HAVE SOME DATA SUBSEQUENT TO THAT. AND SO IF  
13 WE KNOW THAT BY 2020 IN THE S&P 1500 ABOUT 25 PERCENT OF  
14 SEATS ARE -- AT THE POINT OF 2020 WERE HELD BY WOMEN,  
15 THEIR MODEL CLEARLY UNDERSHOT THAT TO SOME EXTENT.

16 GIVEN THAT, A PLAUSIBLE ALTERNATIVE MODEL MIGHT  
17 BE TO SAY, WELL, IF WE TAKE THE GROWTH RATE FROM 2014 TO  
18 2020, THAT'S AN AVERAGE ANNUALIZED GROWTH RATE SORT OF  
19 ON THE ORDER OF 10 PERCENT. THAT WOULD ACTUALLY -- IF  
20 THAT WAS THE GROWTH RATE GOING FORWARD, IT WOULD  
21 ACTUALLY BE A NUMBER MORE LIKE SEVEN YEARS TO REACH  
22 OVERALL PARITY.

23 SO THERE ARE TWO DIFFERENT WAYS TO THINK ABOUT  
24 THIS ISSUE, AND BOTH INVOLVE A SET OF ASSUMPTIONS THAT  
25 YOU WOULD HAVE TO DECIDE WHICH YOU BELIEVE IS MORE  
26 PLAUSIBLE.

27 SO THE GAO MODEL IS SIMPLY SAYING STARTING IN  
28 2014 WE'RE GOING TO ASSUME THAT ON AVERAGE THE SAME

1 NUMBER OF SEATS ARE GOING TO OPEN UP EVERY YEAR, AS HAD  
2 BEEN THE CASE PREVIOUSLY, AND THEN WE'RE GOING TO ASSUME  
3 THAT THOSE SEATS ARE FILLED, YOU KNOW, ROUGHLY AT  
4 PARITY. THEN WE WILL GET TO OVERALL PARITY AT SOME  
5 POINT WAY IN THE FUTURE.

6 THE ALTERNATIVE MODEL MIGHT SAY, WELL, IF WE  
7 SEE THE GROWTH THAT WE'VE SEEN FROM 2014 TO 2020, AND  
8 THAT GROWTH CONTINUES TO COMPOUND, THEN THAT WOULD  
9 ACTUALLY GET TO OVERALL PARITY MUCH QUICKER.

10 Q. IS IT POSSIBLE TO DO THE SECOND ALTERNATIVE,  
11 THE 2014 OR 2015 TO 2020?

12 A. YEAH. THE NUMBERS I GAVE YOU BASICALLY WOULD  
13 BE WHAT WOULD FALL OUT OF THAT ALGEBRA.

14 Q. SO YOU'RE USING NOT HYPOTHESIS BUT ACTUAL  
15 NUMBERS?

16 A. YES, SO IF YOU LOOK AT THE GROWTH FROM 15.5  
17 PERCENT TO 2000 OF 25 PERCENT, THAT'S AN AVERAGE  
18 ANALYZED GROWTH RATE OF ABOUT 8 PERCENT PER YEAR.

19 Q. WHERE ARE GETTING THAT 25 PLUS PERCENT?

20 A. IF YOU LOOK AT THE S&P 1500, THE BOARD  
21 COMPOSITION AS OF 2020 WAS 25 PERCENT WAS HELD BY  
22 FEMALE.

23 Q. YOU LOOKED AT THAT?

24 A. YES.

25 Q. IN YOUR ANALYSIS OF THIS REPORT?

26 A. YES.

27 Q. SO DO YOU HAVE AN OPINION BASED ON THAT ON THE  
28 RELIABILITY OF THE 40 TO 50 YEARS?

1       A.     IF IT WERE ME CHOOSING, I THINK THIS IDEA THAT  
2     THE MOST RECENT GROWTH RATE IS PROBABLY A BETTER GUIDE  
3     TO THE NEAR FUTURE THAN THIS LONG 1997 TO 2014 GROWTH  
4     RATE.  AND ALSO, GIVEN SOME OF THE THINGS WE THINK WE  
5     KNOW FROM THE LITERATURE, I THINK THE IDEA THAT THERE  
6     WOULD BE COMPOUND GROWTH, YOU KNOW, ESSENTIALLY  
7     EXPONENTIAL GROWTH OR GROWTH AT A CONSTANT RATE MAKES  
8     MORE SENSE THAN THAT THERE WOULD BE JUST LINEAR GROWTH.

9       Q.     THINGS THAT YOU KNOW FROM THE LITERATURE JUST  
10    MEANS WHAT?

11      A.     YOU KNOW, AS THE LITERATURE, THAT SORT OF  
12    SUGGESTS THAT AS YOU GET MORE WOMEN IN BOARDS OR IN  
13    EXECUTIVE POSITIONS, NETWORKS GROW.  AND SO THAT SHOULD  
14    BE SUGGESTIVE THAT YOU WOULD ACTUALLY GET SOMETHING MORE  
15    AKIN TO COMPOUND GROWTH THAN JUST SIMPLE LINEAR GROWTH.

16      Q.     IN ALL FAIRNESS TO THE STUDY, THOUGH, IT'S NOT  
17    AN UNFAIR ASSUMPTION, RIGHT, THAT THE STUDY IS BASED  
18    UPON AT THE TIME THAT THE REPORT WAS PREPARED?

19      A.     I BELIEVE REASONABLE PEOPLE COULD -- YOU KNOW,  
20    COULD DISAGREE.  SO IT COULD BE A REASONABLE SET OF  
21    ASSUMPTIONS.

22            I WOULD CHOOSE DIFFERENT ASSUMPTIONS, BUT I  
23    THINK REASONABLE PEOPLE COULD DISAGREE.

24      Q.     AND SINCE YOU WOULD HAVE CHOSEN DIFFERENT  
25    ASSUMPTIONS, WHAT ONE OR TWO ASSUMPTIONS WOULD YOU HAVE  
26    CHOSEN DIFFERENTLY?

27      A.     AGAIN, THIS IDEA THAT MORE RECENT GROWTH IS  
28    PROBABLY MORE PREDICTIVE OF THE FUTURE THAN GROWTH OVER

1 A FARTHER BACK TIME PERIOD.

2 Q. SO YOU WOULD NOT HAVE GONE BACK AS FAR BACK AS  
3 '97?

4 A. PROBABLY NOT.

5 AT A MINIMUM, I WOULD WONDER -- YOU KNOW, THE  
6 GROWTH FROM 8.3 PERCENT TO 15.5 PERCENT OVER THAT '97 TO  
7 2014 PERIOD IS BASICALLY LIKE A 3 PERCENT OR SO  
8 ANNUALIZED AVERAGE GROWTH RATE, AND SO WE'VE CLEARLY  
9 SEEN SOMETHING MUCH FASTER THAN THAT SINCE 2014. SO AT  
10 LEAST IT WOULD LEAD YOU TO WONDER, YOU KNOW, WHETHER  
11 THAT FARTHER BACK RATE WAS SO RELEVANT.

12 Q. IN FACT, GOING TOO FAR BACK MIGHT ACTUALLY SKEW  
13 IT IF THE TREND IS GOING UP FASTER AT A LATER PERIOD OF  
14 TIME?

15 A. YEAH. WE DIDN'T REALLY EVER PUT ANYTHING THIS  
16 WAY, BUT OFTEN IN STATISTICS YOU HAVE SORT OF A  
17 TRADEOFF. MORE DATA ARE BETTER, BUT MORE RECENT DATA  
18 TEND TO BE MORE RELEVANT. AND SO A LOT OF STATISTICAL  
19 OR STATISTICS-BASED ANALYSIS INVOLVES THIS TRADEOFF  
20 BETWEEN YOU'D LIKE A LONGER DATA SET, BUT IN SOME WAYS  
21 YOU'D LIKE TO WEIGHT MORE RECENT DATA PROBABLY MORE  
22 HEAVILY, ALL THE OTHER THINGS EQUAL.

23 Q. IF YOU WERE TESTIFYING BEFORE THE CALIFORNIA  
24 STATE LEGISLATURE IN 2018, WOULD YOU HAVE TOLD THEM THIS  
25 ABOUT THIS STUDY, WHAT YOU JUST TOLD US?

26 MR. SEFERIAN: OBJECTION, INCOMPLETE  
27 HYPOTHETICAL, BEYOND THE SCOPE OF HIS EXPERTISE.

28 THE COURT: SUSTAINED.

1 BY MR. STICHT:

2 Q. IN OTHER WORDS, THE QUESTIONS I'VE ASKED YOU  
3 ABOUT THIS STUDY, WOULD YOU HAVE RELAYED THOSE TO THE  
4 CALIFORNIA LEGISLATURE IF YOU WERE TESTIFYING ABOUT THIS  
5 STUDY?

6 MR. SEFERIAN: SAME OBJECTIONS.

7 THE COURT: OVERRULED.

8 THE WITNESS: YES, I WOULD SAY -- ROUGHLY GIVE  
9 THE ANSWER THAT I'VE GIVEN YOU.

10 BY MR. STICHT:

11 Q. WOULD YOU HAVE ADVISED THEM TO ACTUALLY TRY TO  
12 RUN THE STUDY THROUGH 2018, WHICH IS THAT TIME PERIOD?

13 MR. SEFERIAN: OBJECTION, BEYOND THE SCOPE OF  
14 EXPERTISE.

15 THE COURT: OVERRULED.

16 THE WITNESS: SO I'M TRYING TO THINK WHAT KIND  
17 OF DATA LAG THERE IS. I THINK THE DATA LAG IS NOT SO  
18 LONG, SO IF YOU WERE ASKED IN 2018 YOU PROBABLY  
19 COULDN'T, SAY, LOOK AT THE DATA THROUGH 2018. PROBABLY  
20 THE BEST YOU COULD DO IS, SAY, LOOK AT THE DATA THROUGH  
21 2017 OR SO BECAUSE IT DOES TAKE A LITTLE WHILE FOR THE  
22 DATA TO BE COLLECTED FROM FILINGS AND WHATNOT.

23 BUT WHAT I WOULD HAVE SUGGESTED IS LOOK AT THE  
24 DATA THROUGH THE MOST RECENT PERIOD THAT WAS AVAILABLE.

25 BY MR. STICHT:

26 Q. AT THAT TIME PERIOD, IN YOUR EXPERT OPINION,  
27 WOULD THIS HAVE BEEN A RELIABLE STUDY FOR CONCLUDING 40  
28 TO 50 YEARS TO REACH PARITY?

1           A.     I'M NOT SURE I WOULD HAVE GIVEN IT A LOT OF  
2 WEIGHT GIVEN THE ASSUMPTION DIFFERENCES THAT I WOULD  
3 HAVE MADE.

4                   BUT IF YOU WERE ACCEPTING OF THOSE ASSUMPTIONS,  
5 THEY CARRIED THOSE ASSUMPTIONS THROUGH CORRECTLY.

6           Q.     WOULD YOU PLEASE TAKE A LOOK AT EXHIBIT 250 IN  
7 YOUR BINDER.

8                   ARE YOU FAMILIAR WITH THIS STUDY, PROFESSOR?

9           A.     I AM, YES.

10          Q.     IS THIS THE STUDY REFERENCED IN SUBPARAGRAPH  
11 (F) (2) ON PAGE THREE OF TRIAL EXHIBIT 12?

12          A.     YES, IT IS.

13          Q.     SO THIS IS A 2017 EQUILAR GENDER DIVERSITY  
14 INDEX. AND ACCORDING TO THE FINDINGS IT SAYS IT WILL  
15 TAKE NEARLY 40 YEARS FOR THE RUSSELL 3000 COMPANIES  
16 NATIONWIDE TO REACH GENDER PARITY, WHICH WOULD BE THE  
17 YEAR 2055 AT THE TIME OF THE STATUTE.

18                   IS THAT FAIRLY WHAT THE STUDY ACTUALLY FOUND?

19          A.     YES. THAT'S WHAT THE STUDY STATES, YES.

20          Q.     ANYTHING DIFFERENT ABOUT THIS STUDY THAT YOU  
21 HAVEN'T TOLD US ABOUT THE GAO STUDY?

22          A.     IT'S SIMILAR. IT'S NOT IDENTICAL.

23                   SO THIS IS USING BOARD COMPOSITION DATA OF THE  
24 RUSSELL 3000, I BELIEVE, WHICH IS A BROADER -- A BROADER  
25 USE OF TERMS. BUT THEY'RE DOING SORT OF SIMILAR THINGS,  
26 ALTHOUGH THEY'RE NOT MAKING THE ASSUMPTION OF BOARD  
27 SEATS COMING OPEN AND BEING FILLED IN A PARTICULAR WAY.

28                   THEY'RE MAKING AN ASSUMPTION BASED ON THE

1 GROWTH RATE THAT THEY SAW IN SORT OF THE EARLIER TIME  
2 PERIOD AND THEN LINEARLY EXTRAPOLATING IT SORT OF GOING  
3 FORWARD.

4 Q. HOW FAR BACK DID THEY GO, DO YOU RECALL?

5 A. NOT OFF THE TOP OF MY HEAD, I DON'T. THEY  
6 DON'T HAVE AN INFOGRAPHIC SO IT WOULD TAKE SOME TIME TO  
7 FIND IT EXACTLY IN THE STUDY.

8 Q. DO YOU HAVE EXHIBIT 227 IN YOUR BINDER THERE?

9 I THINK YOU NEED A DIFFERENT BINDER.

10 ARE YOU FAMILIAR WITH THIS STUDY OR REPORT,  
11 PROFESSOR?

12 A. I AM, YES.

13 Q. IS THIS THE REPORT INDICATED AT SUBPARAGRAPH  
14 (F) (3) ON PAGE THREE OF TRIAL EXHIBIT 12?

15 A. YES, IT IS.

16 Q. SO ACCORDING TO THE LEGISLATURE, AT  
17 SUBPARAGRAPH (F) (3) THIS REPORT APPARENTLY FINDS:

18 "NEARLY ONE-HALF OF THE 75 LARGEST IPOs  
19 FROM 2014 TO 2016 WENT PUBLIC WITH NO  
20 WOMEN ON BOARDS, AND MANY TECHNOLOGY  
21 COMPANIES IN CALIFORNIA HAVE GONE  
22 PUBLIC WITH NO WOMEN ON BOARDS."

23 IS THAT A FAIR STATEMENT OF WHAT THIS  
24 THREE-PAGE STUDY OR REPORT INDICATES?

25 A. YES.

26 Q. DOES THIS REPORT DIFFER IN ANY WAY FROM THE  
27 OTHER TWO YOU JUST DISCUSSED?

28 A. YES, IT'S DOING SOMETHING SORT OF DIFFERENT

1 ALTOGETHER. IT'S MERELY COUNTING -- OF THE IPOs THAT  
2 IT'S LOOKING AT IN THAT TIME PERIOD, IT'S COUNTING HOW  
3 MANY OF THEM INVOLVE WOMEN ON THE APPOINTED BOARDS OR ON  
4 A --

5 Q. WAS IT LIMITED TO CALIFORNIA PUBLICLY HELD  
6 COMPANIES?

7 A. YEAH, I BELIEVE IT WAS.

8 Q. DOES THAT TELL US ANYTHING IN PARTICULAR ABOUT  
9 REACHING PARITY?

10 MR. SEFERIAN: OBJECTION, BEYOND THE SCOPE OF  
11 EXPERTISE.

12 THE COURT: OVERRULED.

13 THE WITNESS: NO, I DON'T THINK SO. IT WOULD  
14 NEED -- WE WOULD NEED SORT OF MORE CONTEXT, I BELIEVE.  
15 ALTHOUGH IT IS SORT OF INTERESTING, IN THAT IF WE RELATE  
16 IT TO THE GAO STUDY, THE ASSUMPTIONS OF THE GAO STUDY  
17 SORT OF TAKE THE NUMBER OF COMPANIES, AND THEREFORE THE  
18 NUMBER OF SEATS, AS SORT OF FIXED.

19 BUT OF COURSE SEATS AREN'T GOING TO BE FIXED IF  
20 THERE ARE NEW COMPANIES THAT GO PUBLIC AND THAT SORT OF  
21 THING. SO IT DOES SORT OF BY INDIRECT INFERENCE RAISE A  
22 DIFFERENT ISSUE ABOUT THE GAO STUDY, BUT IN TERMS OF  
23 WHAT WE CAN INFER ON THE BASIS OF CALIFORNIA IPOs, I'M  
24 NOT SURE THE COUNTS REALLY TELL US VERY MUCH.

25 Q. SO IT'S JUST A DATA REPORT, CORRECT?

26 A. CORRECT. THAT'S CORRECT. IF WE GO BACK TO OUR  
27 DESCRIPTIVE STATISTICS, IT'S NOT EVEN SORT OF AVERAGING  
28 OR ANYTHING LIKE THAT. IT'S MERELY JUST COUNTING.

1 Q. LOOKING AT SUBPARAGRAPH (F) (2) IN THAT STUDY IN  
2 EXHIBIT 50, AND (F) (3), EXHIBIT 227, IN YOUR EXPERT  
3 OPINION ARE THOSE RELIABLE IN TERMS OF REACHING A  
4 CONCLUSION THAT IT WILL TAKE 40 OR 50 YEARS TO REACH  
5 GENDER PARITY?

6 A. SO I DON'T THINK -- I DON'T THINK THE 227  
7 ARTICLE OR DATA COLLECTION IS PARTICULARLY RELEVANT TO  
8 THAT QUESTION AT ALL. SO IT WOULD BE DIFFICULT TO TALK  
9 ABOUT RELIABILITY WHEN IT'S JUST INAPT.

10 IN TERMS OF THE EQUILAR STUDY, IN TERMS OF  
11 BEING RELIABLE, AGAIN, IT DEPENDS ON YOUR ASSUMPTIONS.  
12 SO IF YOU ASSUME THAT THE SORT OF GROWTH THAT HAD BEEN  
13 OBSERVED PREVIOUSLY IS GOING TO CONTINUE LINEARLY, THEIR  
14 CALCULATIONS ARE CORRECT UNDER THAT ASSUMPTION.

15 IF INSTEAD YOU THINK THAT GROWTH WILL BE MORE  
16 COMPOUNDING OR EXPONENTIAL, SO TO SPEAK, THEN THE NUMBER  
17 IS WILDLY OFF. IT WOULD BE MORE ON THE ORDER OF SEVEN  
18 YEARS IF YOU ALLOW FOR AN EXPONENTIAL GROWTH.

19 Q. AS YOU SIT HERE TODAY, IN YOUR EXPERT OPINION  
20 WHAT'S THE MORE LIKELY PARITY LENGTH OF TIME?

21 MR. SEFERIAN: OBJECTION, BEYOND THE SCOPE OF  
22 EXPERTISE.

23 THE COURT: OVERRULED.

24 THE WITNESS: I TEND ON THAT TRADEOFF OF  
25 AVOIDING MORE RECENT EVIDENCE MORE HIGHLY. AND ON THE  
26 BASIS OF THE ASSUMPTION THAT THE WHOLE INTUITION OF SOME  
27 OF THIS LITERATURE, THAT AS YOU GET MORE WOMEN THE  
28 EFFECTS WILL IN SOME SENSE BE COMPOUNDING, YOU PUT THOSE

1 TWO ASSUMPTIONS TOGETHER AND I WOULD LEAN MORE IN FAVOR  
2 OF THE SHORTER TIME ESTIMATE THAN THE LONGER TIME  
3 ESTIMATE.

4 BY MR. STICHT:

5 Q. AND THAT'S SIMPLY ON A DESCRIPTIVE TIME BASIS,  
6 RIGHT?

7 A. OH, THAT'S RIGHT. NONE OF THESE STATEMENTS  
8 EITHER MADE IN THESE REPORTS OR THE STATEMENTS THAT I  
9 HAVE MADE OF MY OPINION PROVIDE ANYTHING ABOUT  
10 UNCERTAINTY ESTIMATES OR ANYTHING ALONG THOSE LINES.

11 Q. AND SHOULD THAT BE DONE IF YOU'RE REALLY  
12 LOOKING FOR A CERTAINTY WITH RESPECT TO PARITY?

13 A. OH, ABSOLUTELY, YES. ABSOLUTELY.

14 Q. AND SO WE WOULD ADD -- JUST GIVE US A FLAVOR OF  
15 WHAT WE WOULD ADD TO A STUDY LIKE THE GAO TO MAKE IT --  
16 AS YOU TESTIFIED TODAY, TO MAKE IT MORE RELIABLE, MORE  
17 CERTAIN IN THOSE TYPES OF STATISTICAL, METHODOLOGICAL,  
18 RELIABLE BASES.

19 A. SURE. SO FOR THE GAO AND THE EQUILAR STUDY,  
20 ONE COULD HAVE TAKEN THAT DATA AND ESTIMATED TREND  
21 REGRESSION.

22 SO WE'VE TALKED ABOUT REGRESSIONS A NUMBER OF  
23 TIMES, BUT ONE COULD HAVE A REGRESSION WHERE THE  
24 EXPLANATORY VARIABLE OR THE PRIMARY EXPLANATORY VARIABLE  
25 IS A TIME VARIABLE, SO YOU CAN ESTIMATE A REGRESSION AND  
26 SAY HOW IS SOME OUTCOME CHANGING OVER TIME. AND THE  
27 REGRESSION ESTIMATE WOULD PROVIDE YOU SOME ESTIMATE OF  
28 THE UNCERTAINTY OF THOSE ESTIMATES.

1           AND THEN WHEN YOU MAKE A PROJECTION BASED ON  
2 SUCH A MODEL, YOU CAN USE THOSE UNCERTAINTY ESTIMATES TO  
3 PROVIDE SOME ESTIMATES OF HOW WIDE YOUR BOUNDS SHOULD  
4 BE. SO YOU COULD SAY, I THINK BY YEAR 2030 THE FRACTION  
5 OF WOMEN MY BEST ESTIMATE MIGHT BE 40 PERCENT, BUT I  
6 HAVE UNCERTAINTY BOUNDS THAT COULD BE AS HIGH AS  
7 45 PERCENT, IT WOULD BE AS LOW AS 35 PERCENT, JUST  
8 HYPOTHETICALLY. I'VE MADE THOSE NUMBERS UP. BUT YOU  
9 COULD GET THAT OUT OF A REGRESSION-BASED PREDICTION.

10       Q.     WOULD THAT GIVE US MORE CERTAINTY?

11       A.     I WOULD PUT IT A DIFFERENT WAY. I WOULD SAY IT  
12 ALLOWS US TO BE MORE HONEST ABOUT OUR UNCERTAINTY.

13       Q.     IN PLAIN ENGLISH, WHAT DOES THAT MEAN?

14       A.     IT WOULD SAY GIVEN THAT WE'RE USING NOISY DATA  
15 TO MAKE A PREDICTION, THAT PREDICTION CAN ONLY BE AS  
16 CERTAIN AS THE VARIABILITY OF THE DATA, SO WE NEED TO  
17 TAKE THAT INTO ACCOUNT IN MAKING OUR PROBABILISTIC  
18 STATEMENTS ABOUT A PREDICTION.

19       Q.     DOES THE ABSENCE OF THAT KIND OF RIGOR RENDER  
20 THE 40 TO 50-YEAR FIGURE UNCERTAIN?

21       A.     WELL, EVEN IF YOU HAD THE RIGOR, YOUR ESTIMATES  
22 WOULD BE UNCERTAIN AS WELL BECAUSE -- I GUESS THE WAY I  
23 WOULD PHRASE IT IS BY PRESENTING THE ESTIMATES WITHOUT  
24 THAT AMOUNT OF RIGOR, YOU'RE ESSENTIALLY HIDING THE  
25 BALL.

26           YOU'RE MAKING CLAIMS THAT TO AN UNTRAINED OR  
27 UNEDUCATED AUDIENCE COME ACROSS AS, YOU KNOW, HERE IS  
28 THE ANSWER AS OPPOSED TO SAYING, YOU KNOW, HERE'S MY

1 BEST GUESS, BUT MY CONFIDENCE IS IT COULD RANGE ANYWHERE  
2 FROM HERE TO HERE.

3 Q. WOULD YOU PLEASE TURN TO EXHIBIT 251.

4 ARE YOU FAMILIAR WITH THIS STUDY, PROFESSOR?

5 A. I AM, YES.

6 Q. IS THIS THE STUDY THAT IS REFERRED TO IN  
7 SUBPARAGRAPH (G) (1) ON PAGES THREE AND FOUR OF TRIAL  
8 EXHIBIT 12?

9 A. YES.

10 Q. THIS STUDY IS ABOUT CRITICAL MASS, RIGHT?

11 A. YES, THAT'S CORRECT.

12 Q. SO THE LEGISLATURE STATED AT THE TOP OF PAGE  
13 FOUR THAT:

14 "GOING FROM ONE OR TWO WOMEN DIRECTORS  
15 TO AT LEAST THREE CREATES AN  
16 ENVIRONMENT WHERE WOMEN ARE NO LONGER  
17 SEEN AS OUTSIDERS AND ARE ABLE TO  
18 INFLUENCE THE CONTENT, PROCESS AND  
19 BOARD DISCUSSIONS MORE SUBSTANTIALY."

20 EXCUSE ME.

21 IS THAT A FAIR CONCLUSION THAT WAS MADE BY  
22 THESE AUTHORS?

23 A. NOT QUITE. I WOULD SAY IT'S AN INFERENCE  
24 BEYOND THE CONCLUSION. SO THE DATA WORK IN THIS PAPER  
25 INVOLVES THE RELATIONSHIP BETWEEN THE GENDER OR SEX  
26 COMPOSITION OF BOARDS IN NORWAY AND SOME SUBJECTIVE  
27 EVALUATIONS OF HOW INNOVATIVE -- AND WE CAN TALK ABOUT  
28 WHAT THEY MEAN BY INNOVATIVE -- A FIRM IS.

1           AND SO AT BEST, THE DATA CAN SUPPORT AN IDEA  
2   THAT FIRMS WITH MORE WOMEN, AT LEAST ON THIS ANALYSIS,  
3   APPEAR TO BE SUBJECTIVELY RATED AS MORE INNOVATIVE.

4           NOW, WHY THAT IS INVOLVES SORT OF AN INFERENCE  
5   BEYOND THE DATA. AND I THINK WHAT THE PAPER IS TRYING  
6   TO SAY IS THIS IS CONSISTENT WITH THIS IDEA, YOU KNOW,  
7   DRAWN FROM SOME PARTS OF THE LITERATURE, THAT WOMEN  
8   MIGHT AFFECT -- DIFFERENTIALLY MIGHT AFFECT  
9   DECISION-MAKING IN A FIRM, BUT ONLY IF YOU GET TO A  
10   CRITICAL MASS.

11         Q.    DOES THE DATA SUPPORT THAT?

12         A.    SO THERE ARE A COUPLE OF ISSUES WITH THIS  
13   STUDY. IF WE DISTINGUISH IT FROM THE MASSIVE STUDIES IN  
14   826, THE CONSULTANCY STUDIES THAT WE'VE BEEN TALKING  
15   ABOUT PREVIOUSLY, THIS PAPER HAS MUCH MORE RIGOR.  
16   THAT'S FOR SURE.

17               IT EXPLAINS ITS METHODS MORE COMPLETELY AND IT  
18   PROVIDES ESTIMATES OF UNCERTAINTY OF THEIR ESTIMATES,  
19   COEFFICIENT ESTIMATES, THINGS LIKE THAT. SOME OF WHAT  
20   WE'VE BEEN TALKING CRITICALLY ABOUT SOME OF THE EARLIER  
21   STUDIES.

22               THAT SAID, IF WE GO BACK TO OUR DISCUSSION  
23   YESTERDAY ABOUT HOW TO USE EMPIRICAL MODELS TO GET TO  
24   CAUSALITY, THIS PAPER IS NOT PARTICULARLY SOPHISTICATED  
25   IN THOSE REGARDS. SO I WOULD PUT IT SOMEWHERE  
26   BETWEEN -- YOU KNOW, IT'S CLEARLY MORE RIGOROUS IN MANY  
27   SENSES THAN THE CONSULTANCY PAPERS, BUT IT'S PERHAPS NOT  
28   QUITE SUFFICIENT OR SOPHISTICATED ENOUGH TO GIVE US MUCH

1 CONFIDENCE ON CAUSALITY.

2 Q. NOW, THE STATUTE AT THE TOP OF PAGE FOUR TALKS  
3 ABOUT A SECOND REPORT ENTITLED "CRITICAL MASS ON  
4 CORPORATE BOARDS: WHY THREE OR MORE WOMEN ENHANCE  
5 GOVERNANCE."

6 A. CORRECT, YES.

7 Q. AND THAT IS EXHIBIT 252 IN YOUR BINDER.

8 A. YES. CORRECT.

9 Q. IT'S RELYING ON BOTH OF THESE. WOULD YOU TELL  
10 US ABOUT THIS EXHIBIT? YOU ARE FAMILIAR WITH IT, RIGHT?

11 A. I AM, YES.

12 Q. FOR THE SAME QUESTION AS THE LEGISLATURE  
13 SUMMARY OF THE FINDINGS, THAT GOING FROM ONE OR TWO  
14 WOMEN TO AT LEAST THREE CREATES AN ENVIRONMENT WHERE  
15 WOMEN ARE NO LONGER SEEN AS OUTSIDERS AND ABLE TO  
16 INFLUENCE THE CONTENT AND PROCESS OF BOARD DISCUSSIONS  
17 MORE SUBSTANTIALLY.

18 IS THERE ANYTHING DIFFERENT TO SAY ABOUT THIS  
19 REPORT?

20 A. DIFFERENT IN THAT IT'S A VERY DIFFERENT TYPE OF  
21 RESEARCH. THIS PAPER BY KRAMER, KONRAD AND ERKUT IS AN  
22 INTERVIEW METHODOLOGY. SO IT MIGHT BE WHAT WE THINK OF  
23 MORE AS A QUALITATIVE RESEARCH AS OPPOSED TO  
24 QUANTITATIVE OR STATISTICAL RESEARCH.

25 SO WHAT THIS PAPER DOES IS IT INTERVIEWS, YOU  
26 KNOW A BUNCH OF PEOPLE, 50 WOMEN WHO HAVE SERVED ON  
27 CORPORATE BOARDS AND I BELIEVE 19 CEOS WHICH IS A MIX OF  
28 MEN AND WOMEN, AND THEN I BELIEVE ANOTHER SEVEN

1 CORPORATE SECRETARIES, AND JUST ASKED THEM TO SORT OF  
2 RELATE THEIR EXPERIENCES.

3 AND THE RESEARCHERS QUALITATIVELY -- BASED ON  
4 THESE INTERVIEWS AND THESE SUBJECTIVE RESPONSES IN THE  
5 INTERVIEWS, THESE RESEARCHERS INFER THIS CRITICAL MASS  
6 EFFECT THAT, AS THEY EXPLAIN IT, IF A FEMALE CORPORATE  
7 BOARD MEMBER WAS THE ONLY MEMBER OF A BOARD, SHE DIDN'T  
8 FEEL HEARD OR SHE DIDN'T FEEL AS THOUGH SHE WERE  
9 EFFECTIVE IN GETTING HER VIEWPOINT ACROSS.

10 IF YOU'VE GOT A COUPLE, SO TWO WOMEN ON A  
11 BOARD, MAYBE THIS EFFECT WAS A LITTLE BIT LESS, BUT IT  
12 REALLY TOOK UNTIL YOU GOT TO SORT OF THREE WOMEN ON A  
13 BOARD BEFORE THE WOMEN FELT AS THOUGH THEY COULD BE  
14 EFFECTIVE IN GETTING THEIR VIEWPOINT ACROSS.

15 SO IT'S REALLY NOT STATISTICAL RESEARCH AT ALL.  
16 IT'S INTERVIEW-BASED RESEARCH. IT'S NOT THE KIND OF  
17 RESEARCH THAT'S DONE MUCH IN ECONOMICS AT ALL, OR IF  
18 IT'S DONE IN ECONOMICS, IT'S -- OR IN FINANCE OR A  
19 FIELD, IT WOULD ALMOST BE LIKE PRE-RESEARCH, A WAY TO  
20 DEVELOP HYPOTHESES RATHER THAN TO DRAW ANY CONCLUSIONS.

21 Q. PUTTING ASIDE THE QUALITATIVE VERSUS THE  
22 STATISTICAL DIFFERENCE IN THE STUDIES, IN YOUR OPINION  
23 ARE THEY INDIVIDUALLY OR COLLECTIVELY RELIABLE TO REACH  
24 THE CONCLUSION THAT THE CRITICAL MASS OF THREE WOMEN  
25 CREATES THE ENVIRONMENT WOMEN ARE NO LONGER SEEN AS  
26 OUTSIDERS, ET CETERA?

27 MR. SEFERIAN: OBJECTION, CALLS FOR  
28 SPECULATION, BEYOND THE SCOPE OF EXPERTISE.

1 THE COURT: OVERRULED.

2 THE WITNESS: SO NO. IF ONE WERE TO LOOK AT  
3 TABLE TWO OF THE TOKENISM ARTICLE, YOU'D SEE THEIR MAIN  
4 STATISTICAL RESULTS. AND LET'S HIT PAUSE FOR A SECOND  
5 SO WE GET A SENSE OF WHAT THEIR OUTCOME VARIABLE IS.  
6 BY MR. STICHT:

7 Q. IF I CAN INTERRUPT YOU, WHAT PAGE ARE YOU ON?

8 A. TRIAL EXHIBIT 251-013.

9 Q. 013?

10 OKAY, THANK YOU. PLEASE CONTINUE.

11 A. SO THE DATA FOR THIS PAPER IS SURVEY DATA. THE  
12 AUTHORS SURVEYED -- SENT SURVEYS TO A NUMBER OF  
13 NORWEGIAN COMPANIES. THERE ARE SOME ISSUES  
14 METHODOLOGICALLY IN TERMS OF THEIR RESPONSE RATE FOR THE  
15 SURVEYS.

16 ABOUT A THIRD OF THE COMPANIES RESPONDED, AND  
17 THEN OF THAT THIRD THE RESEARCHERS ONLY USED ONE-THIRD.  
18 SO THEY WERE DOWN TO ABOUT 10 PERCENT OF THE FOLKS THEY  
19 SENT SURVEYS TO.

20 BUT THE SURVEY QUESTIONS ASKED PEOPLE TO RATE  
21 SORT OF SUBJECTIVELY HOW INNOVATIVE THEIR FIRM WAS FROM  
22 A ORGANIZATIONAL STANDPOINT. SO THEY WEREN'T REALLY  
23 TALKING ABOUT INNOVATING IN TERMS OF COMING UP WITH NEW  
24 PRODUCTS. THEY WERE MORE TALKING ABOUT HOW  
25 ORGANIZATIONALLY INNOVATIVE WE ARE, STRATEGICALLY HOW  
26 INNOVATIVE OUR STRATEGY IS, HOW INNOVATIVE OUR STRUCTURE  
27 IS, THINGS OF THAT NATURE.

28 SO IT'S ALL THE RESULTS FROM THESE SURVEYS THAT

1 WERE GIVEN TO THE NORWEGIAN FOLKS. AND SO IF WE SEE IN  
2 THIS TABLE 2 WHERE THE CRITICAL MASS RESULT IS  
3 ESSENTIALLY, IS SAYING COMPANIES THAT HAD ONE WOMAN ON  
4 THE BOARD OR COMPANIES THAT HAD TWO WOMEN ON THE BOARD,  
5 THERE WASN'T A STATISTICALLY SIGNIFICANT EFFECT ON THESE  
6 RATINGS OF INNOVATIVENESS, BUT ONCE YOU GOT TO THREE  
7 WOMEN ON THE BOARD, YOU TENDED TO FIND THAT THOSE  
8 COMPANIES WERE STATISTICALLY SIGNIFICANTLY MORE  
9 INNOVATIVE BY THESE SUBJECTIVE ANSWERS.

10 THE PROBLEM WITH JUMPING FROM THAT TO SUPPORT  
11 FOR THE CRITICAL MASS STORY IS THESE ARE NOT -- FOR  
12 EXAMPLE, THESE ARE NOT PANEL DATA. SO IT'S NOT AS  
13 THOUGH YOU ARE SERVING THE PEOPLE IN THE ORGANIZATION AT  
14 A POINT WHEN THEY DIDN'T HAVE THREE WOMEN AND THEN LATER  
15 ONCE THEY DID TO SEE IF THE CHANGE LED TO MORE  
16 INNOVATION.

17 INSTEAD WHAT YOU'RE DOING IS YOU'RE JUST  
18 LOOKING AT A SNAPSHOT, ONE MOMENT IN TIME. WHAT THEIR  
19 FINDING IS THAT FIRMS THAT HAD MORE WOMEN ON THEIR  
20 BOARDS WERE ORGANIZATIONALLY MORE INNOVATIVE.

21 AND SO IT'S A HARD JUMP TO GO FROM THAT RESULT  
22 TO THE WOMEN ON THE BOARD ARE WHAT MADE THE FIRM MORE  
23 INNOVATIVE. IT COULD HAVE JUST AS EASILY BE THAT MORE  
24 INNOVATIVE FIRMS ARE MORE APT TO PUT MORE WOMEN ON THEIR  
25 BOARD, OR A MILLION OTHER KIND OF OTHER CAUSAL  
26 MECHANISMS COULD BE AT WORK THERE.

27 AND THIS STUDY DESIGN DOES NOT ALLOW US TO RULE  
28 OUT ANY OF THOSE OTHER POSSIBILITIES.

1 Q. AND WITH RESPECT TO THE SPECIFIC FINDING THAT'S  
2 IN THE STATUTE AT THE TOP OF PAGE FOUR, TRIAL  
3 EXHIBIT 12, SUBSECTION (1), "CREATES AN ENVIRONMENT  
4 WHERE WOMEN ARE NO LONGER SEEN AS OUTSIDERS AND ABLE TO  
5 INFLUENCE THE CONTENT AND PROCESS OF BOARD DISCUSSIONS."

6 DOES THIS DATA ACTUALLY REACH THAT CONCLUSION?

7 A. IT DOESN'T ACTUALLY EVEN -- AT LEAST IN THE  
8 QUANTITATIVE PRESENTATION, IT DOESN'T EVEN ASK THAT  
9 QUESTION.

10 Q. IS IT POSSIBLE TO RUN A DATA SET STATISTICALLY  
11 IN A PROPER MODEL IN A METHODOLOGY WAY ABOUT HOW WOMEN  
12 BEING ABOUT BEING OUTSIDERS?

13 A. SURE. OF COURSE.

14 Q. AND DOES THIS STUDY DO THAT?

15 A. IT DOES NOT, NO.

16 Q. IN YOUR OPINION, IS THIS RELIABLE FOR REACHING  
17 THAT CONCLUSION IN PARAGRAPH ONE?

18 A. NO. I WOULD SAY IT'S -- IT'S PREMATURE.

19 Q. PLEASE TURN TO PAGE -- OR EXHIBIT 29.

20 A. ONE OTHER THING ON THAT, I JUST -- JUST CAME TO  
21 MIND LOOKING AGAIN AT 826. SO IN THE PRESENTATION OF  
22 THE RESULTS, IT SAYS, YOU KNOW, GOING FROM ONE TO TWO  
23 WOMEN AND THEN GOING TO THREE WOMEN CREATES AN  
24 ENVIRONMENT. THE PAPER -- THE TOKENISM PAPER NEVER  
25 ACTUALLY OBSERVES COMPANIES GOING FROM ZERO TO ONE OR  
26 ONE TO TWO OR TWO TO THREE. IT MERELY OBSERVES  
27 COMPANIES AT ONE GIVEN POINT IN TIME.

28 SO THE DESCRIPTION IS A LITTLE BIT INAPT

1 VIS-A-VIS THE STUDY ITSELF.

2 Q. SO WE'RE IN EXHIBIT 29. DO YOU RECOGNIZE THIS  
3 STUDY, PROFESSOR?

4 A. I DO, YES.

5 Q. IS THIS THE STUDY REFERENCED AT TRIAL  
6 EXHIBIT 12, PAGE FOUR, SUBDIVISION (G) (2)?

7 A. YES.

8 Q. THE 2016 MCKINSEY STUDY.

9 A. YES, THAT'S CORRECT.

10 Q. OKAY, AGAIN THE LEGISLATURE CITES THIS STUDY AS  
11 TO FINDING NATIONWIDE THE COMPANIES WHERE WOMEN ARE MOST  
12 STRONGLY REPRESENTED AT THE BOARD OR TOP MANAGEMENT  
13 LEVELS ARE ALSO THE COMPANIES THAT PERFORM THE BEST IN  
14 PROFITABILITY, PRODUCTIVITY AND WORKFORCE ENGAGEMENT.

15 DID THE STUDY FIND THAT?

16 A. IT PURPORTS TO FIND IT, BUT THIS, LIKE MANY OF  
17 THE OTHER CONSULTANCY STUDIES THAT WE'VE DISCUSSED, JUST  
18 PROVIDES DESCRIPTIVE STATISTICS WITH NO REAL  
19 METHODOLOGICAL DESIGNS THAT ARE ABLE TO ISOLATE  
20 CAUSALITY.

21 AND FOR MOST OF THE RESULTS -- I HATE TO SAY  
22 ALL BECAUSE ONE OF THE MCKINSEY STUDIES DOES DO ONE  
23 ATTEMPT TO DO STATISTICAL SIGNIFICANCE. I DON'T RECALL  
24 OFF THE TOP OF MY HEAD WHETHER IT'S THIS ONE OR NOT.  
25 BUT FOR MOST OF THE RESULT THEY DON'T TALK AT ALL ABOUT  
26 STATISTICAL SIGNIFICANCE.

27 Q. IS YOUR TESTIMONY THE SAME WITH RESPECT TO  
28 SUBPARAGRAPH (2) (B), WHICH ALSO DISCUSSES THIS STUDY?

1       A.     YES.

2       Q.     SO (2) (B) TALKS ABOUT WHEN THERE ARE AT LEAST  
3 THREE WOMEN ON THE BOARDS WITH AN AVERAGE MEMBERSHIP OF  
4 10 DIRECTORS, PERFORMANCE INCREASES SIGNIFICANTLY. IS  
5 THAT A PROVEN POINT IN THE STUDY?

6       A.     NO, AGAIN, AND THE TYPES OF TOOLS USED IN THIS  
7 STUDY WOULDN'T -- COULDN'T POSSIBLY COME TO THAT CAUSAL  
8 INFERENCE.

9       Q.     IS THERE ANYTHING IN PARTICULAR ABOUT THIS  
10 STUDY THAT'S DIFFERENT FROM WHAT WE'VE DISCUSSED ON THE  
11 OTHER STUDIES THAT WE SHOULD HIGHLIGHT?

12      A.     THE MCKINSEY STUDIES TEND TO HAVE MORE PICTURES  
13 THAN SOME OF THE OTHER ONES. BUT OTHERWISE IT'S -- THE  
14 CRITICISMS ARE ROUGHLY THE SAME.

15      Q.     THE STUDIES WE'VE DISCUSSED, AND THAT'S  
16 SPECIFICALLY EXHIBITS 244, 245, 246, 247, 248, 249, 250,  
17 227, 251, 252 AND 29, 11 STUDIES HERE TODAY. HAVE ANY  
18 OF THE STUDIES YOU'VE DISCUSSED WITH US TODAY SHOWN A  
19 CAUSATION RELATIONSHIP BETWEEN ADDING WOMEN ON BOARDS  
20 AND IMPROVEMENT IN CORPORATE PERFORMANCE AS IT'S BEEN  
21 DEFINED?

22      A.     NO. AND MANY OF THEM, AS WE'VE NOTED AS WE  
23 WENT THROUGH THEM, MANY OF THEM EXPLICITLY NOTE THAT  
24 THEY DON'T IDENTIFY A CAUSAL RELATIONSHIP.

25      Q.     SO SINCE 11 OF THEM HAVE NOT FOUND CAUSATION  
26 AND SOME OF THEM HAVE INDICATED UP FRONT THAT AT BEST  
27 THEY'RE DRAWING A CORRELATION BETWEEN THE TWO FACTORS,  
28 AM I TO CONCLUDE THAT IT'S IMPOSSIBLE TO ACTUALLY REACH

1 A STUDY WHICH WOULD APPROACH A CAUSATION CONCLUSION?

2 A. SO WE CAN CERTAINLY GET CLOSER WITH DIFFERENT  
3 RESEARCH DESIGNS.

4 Q. AND YOUR TESTIMONY HAS HIGHLIGHTED SOME OF  
5 THOSE, RIGHT?

6 A. THE TYPES OF DESIGNS THAT GET US TO A GREATER  
7 CONFIDENCE IN CAUSALITY. AS I SAID BEFORE, THERE IS NO  
8 RESEARCH DESIGN THAT IS ENTIRELY ASSUMPTION-FREE. BUT  
9 WHAT SORT OF THE MORE MODERN DESIGNS AND EMPIRICAL  
10 SOCIAL SCIENCE HAVE ATTEMPTED TO DO IS TO NARROW THE  
11 ASSUMPTIONS THAT ARE NECESSARY TO DRAW THE CAUSAL  
12 INFERENCE OR FOCUS ON MORE PLAUSIBLE ASSUMPTIONS.

13 Q. COULD SUCH STUDIES HAVE BEEN DONE IN THE ERA OF  
14 2016, 2017, OR EVEN BROADER, BETWEEN 2012 AND 2018?

15 A. WELL, IN THE LITERATURE, IF YOU GO EARLIER THAN  
16 THAT THERE'S A LITERATURE ON THE NORWEGIAN EXPERIENCE  
17 THAT GETS CLOSER TO CAUSAL DESIGNS.

18 SO I WOULD HAVE TO GO A BIT EARLIER IN THE TIME  
19 PERIOD, BUT IT WOULD HAVE -- AND THOSE PAPERS WOULD HAVE  
20 BEEN AVAILABLE TO THE CALIFORNIA LEGISLATURE.

21 Q. ALL RIGHT. WE'VE HEARD FROM ANOTHER EXPERT IN  
22 THIS CASE, A PROFESSOR KONRAD, DR. KONRAD. AND YOU'RE  
23 FAMILIAR WITH DR. KONRAD'S STUDIES, ARE YOU?

24 A. ONLY VIA THIS CASE, MY WORK ON THIS CASE.

25 Q. YES. WOULD YOU KINDLY TURN TO EXHIBIT 257,  
26 PLEASE.

27 ARE YOU FAMILIAR WITH THIS STUDY IN 257?

28 A. I AM, YES.

1 Q. AND YOU'VE REVIEWED AND ANALYZED THIS STUDY AS  
2 PART OF YOUR WORK AS AN EXPERT IN THIS CASE?

3 A. I HAVE. YES.

4 Q. WOULD YOU BRIEFLY SUMMARIZE THIS STUDY AND ITS  
5 METHODOLOGY?

6 A. SO THIS STUDY PROVIDES SOME DESCRIPTIVE  
7 STATISTICS LOOKING AT WHO IS CONSIDERED FOR BOARD  
8 POSITIONS IN VARIOUS COUNTRIES, FOR EXAMPLE, AND THEN  
9 ALSO LOOKS AT U.S. EXPERIENCE AS WELL.

10 AND IT JUST PROVIDES SOME BASIC DESCRIPTIVE  
11 STATISTICS AND THEN ATTEMPTS TO DO SOME WORK LOOKING AT  
12 THE NETWORKS INVOLVED IN IDENTIFYING AND NAMING BOARD  
13 MEMBERS AND LOOKING AT SORT OF THE SEARCH PROCESS AND  
14 THEN MAKING SOME -- PROVIDING SOME SUBJECTIVE OPINIONS  
15 BASED ON SOME SURVEY EVIDENCE AS TO WHY PEOPLE THINK  
16 THAT WOMEN ARE NOT OFFERED BOARD POSITIONS OR ARE NOT  
17 PRESENT ON MORE BOARDS.

18 Q. OKAY. AND IS THIS AN ACADEMIC-TYPE STUDY?

19 A. SO IT'S INTERESTING. THIS STUDY SORT OF SITS  
20 IN A SPACE BETWEEN -- OR NOT QUITE ENTIRELY OVERLAPPING  
21 WITH ACADEMIC, BUT IN THAT IT'S DONE BY ACADEMICS AND  
22 DONE BY PEOPLE WITH PH.D.S IN SORT OF QUANTITATIVE  
23 FIELDS, BUT IT'S PRESENTED IN THE "SLOAN MANAGEMENT  
24 REVIEW," WHICH IS SORT OF AN OUTLET NOT FOR ACADEMICS,  
25 MORE FOR AN EDUCATED READERSHIP.

26 Q. IF YOU LOOK AT PAGE ONE OF THIS STUDY, THERE'S  
27 A HIGHLIGHTED SECTION, I BELIEVE, ON THE RIGHT COLUMN.

28 A. UH-HUH.

1 Q. (READING:)

2 "FOR EXAMPLE, COMPANIES WITH GREATER  
3 GENDER DIVERSITY ARE ASSOCIATED WITH  
4 HIGHER R&D INTENSITY, OBTAIN MORE  
5 PATENTS AND REPORT HIGHER LEVELS OF  
6 OVERALL INNOVATION, PARTICULARLY WHEN  
7 THERE IS A CRITICAL MASS OF WOMEN  
8 DIRECTORS."

9 DOES THIS STUDY PROVE THAT?

10 A. NO. AND I DON'T THINK THIS STUDY PURPORTS TO.  
11 I THINK IN THAT PARAGRAPH THEY'RE INVOKING OTHER WORK.  
12 SO LIKE I SAID, BECAUSE THIS IS ESSENTIALLY A MAGAZINE  
13 FOR AN EDUCATED READERSHIP, THEY'RE INVOKING SOME OF  
14 THEIR ACADEMIC WORK AND THEN PROVIDING, YOU KNOW, SOME  
15 GENERALLY POTENTIALLY INTERESTING RESULTS OF THE  
16 RESEARCH, BUT ARE NOT PRESENTING SORT OF THE RESEARCH IN  
17 ITS -- IN ITS FULL FORM.

18 Q. SO ARE WE NOT TO DRAW THAT CONCLUSION THAT THIS  
19 STUDY SUPPORTS BECAUSE IT REFERS TO THESE OUTSIDE OTHER  
20 STUDIES OR OTHER DATA WORK?

21 A. SO ONE WOULD WANT TO GO TO THE ACTUAL ACADEMIC  
22 STUDIES RATHER THAN THE MAGAZINE PRESENTATION OF THEM.

23 Q. ON PAGE TWO AT THE TOP, IT'S HIGHLIGHTED THERE  
24 DO YOU SEE THAT?

25 A. UH-HUH.

26 Q. AND THE SENTENCE IS:

27 "OUR SURVEY SHOWED 32 PERCENT OF THE  
28 DIRECTORS ON BOARDS THAT INCLUDE AT

1           LEAST THREE WOMEN RATED INNOVATION AS  
2           ONE OF THE TOP THREE STRATEGIC  
3           CHALLENGES COMPANIES FACE VERSUS  
4           26 PERCENT OF BOARDS WITH NO WOMEN."  
5           IS THAT IN THIS STUDY OR IS THAT OUTSIDE THIS  
6 STUDY?

7           A.    IT'S SORT OF OUTSIDE THIS STUDY.   AND ONE  
8 INDICATOR FOR THAT IS THOSE PRESENTATIONS, IF YOU'LL  
9 NOTICE, THEY DON'T INCLUDE ANY ESTIMATES OF UNCERTAINTY.  
10 THEY DON'T PROVIDE ANY INDICATOR WHETHER THIS DIFFERENT  
11 WAS STATISTICALLY SIGNIFICANT OR NOT.

12           THE ACADEMIC VERSION OF A STUDY LIKE THIS, AT  
13 LEAST IN SOCIAL SCIENCE, YOU KNOW, WHERE MANAGEMENT IS  
14 SORT OF A COMPONENT, WOULD DEMAND THOSE SORTS OF  
15 DETAILS.

16           Q.    WHAT ABOUT THE RESEARCH DATA THAT'S DISCUSSED  
17 ON THE LEFT COLUMN, "OVER 5,000 BOARD MEMBERS OF  
18 COMPANIES BASED IN MORE THAN 60 COUNTRIES RESPONDED TO  
19 THE SURVEY"?

20           A.    RIGHT.

21           Q.    DOES THAT HAVE ANY METHODOLOGICAL IMPLICATIONS?

22           A.    ALL THINGS EQUAL, YOU WOULD LIKE TO SEE MORE  
23 DATA POINTS THAN FEWER.

24           SO DEPENDING ON THE SITUATION, 5,000 MIGHT BE  
25 SUFFICIENT IN TERMS OF A SAMPLE SIZE. ALL OTHER THINGS  
26 EQUAL, YOU WOULD LIKE TO SEE SOME INDICATION OF WHAT WAS  
27 THE RESPONSE RATE TO -- YOU KNOW, TO THESE SURVEYS AND  
28 THINGS OF THAT NATURE.

1           BUT AGAIN, THE NATURE OF SOMETHING LIKE THE  
2 "SLOAN MANAGEMENT REVIEW" IS TO PROVIDE, FOR LACK OF A  
3 BETTER TERM, SORT OF THE "READER'S DIGEST" VERSION OF  
4 THE RESEARCH FOR NONSPECIALISTS.

5           AND SO YOU DON'T ACTUALLY GET THE INFORMATION  
6 IN A MAGAZINE TREATMENT LIKE THIS THAT ONE WOULD NEED TO  
7 DETERMINE SORT OF THE CREDIBILITY OF THE UNDERLYING  
8 RESEARCH.

9           Q.    AND MOST OF THIS STUDY, RIGHT, IT'S TALKING  
10 ABOUT THE UNBALANCE BETWEEN MEN AND WOMEN ON BOARDS?

11          A.    CORRECT.

12          Q.    AND THEN OVER ON PAGE SEVEN IT SAYS, "THE  
13 PRIMARY REASON THE PROPORTION OF WOMEN ON BOARDS IS NOT  
14 INCREASING."

15                THIS DOESN'T REALLY TELL US, THOUGH, REASONS,  
16 DOES IT, IN TERMS OF DATA?

17          A.    NO, CERTAINLY NOT. IT'S JUST -- IT'S JUST  
18 SAYING HERE ARE WHAT WE FOUND FROM THE SURVEY RESPONSES  
19 OF PEOPLE.

20          Q.    WOULD YOU TURN, PLEASE, TO EXHIBIT 259.

21                ARE YOU FAMILIAR WITH THIS STUDY, PROFESSOR?

22          A.    YES, I AM.

23          Q.    IS THIS AN ACADEMIC STUDY?

24          A.    IT IS.

25                THE "ILR REVIEW" IS A STANDARD ACADEMIC JOURNAL  
26 IN SORT OF THE INTERDISCIPLINARY SPACE OF LABOR  
27 ECONOMICS, HUMAN RESOURCES, FIELDS OF THAT NATURE.

28          Q.    COULD YOU BRIEFLY ALTHOUGH IT'S A RATHER

1 LENGTHY STUDY, BRIEFLY TELL US WHAT THIS STUDY IS ABOUT  
2 AND WHAT IT'S TRYING TO DO?

3 A. IT'S ACTUALLY A NUMBER OF STUDIES. AND SO THE  
4 FIRST -- YOU KNOW, THE FIRST STUDY IS PRESENTED -- IT IS  
5 ALSO PRESENTED IN TABLE 2, PAGE 168 OF THE ARTICLE. I  
6 GUESS TRIAL EXHIBIT 259-009.

7 AND BASICALLY WHAT IT'S DOING IS IT'S LOOKING  
8 AT THE PROBABILITY OF APPOINTING A WOMAN TO A BOARD  
9 AMONG THEIR SAMPLE FIRMS IN THE PERIOD 2002 AND 2011.  
10 AND THEIR PRIMARY INTEREST IS TO INVESTIGATE WHETHER  
11 THERE'S EVIDENCE OF THIS SO-CALLED MATCHING PHENOMENON,  
12 WHERE FIRMS TEND TO -- WHEN SOMEONE LEAVES A BOARD,  
13 THERE'S THE HYPOTHESIS THAT FIRMS TEND TO REPLACE THAT  
14 BOARD MEMBER WITH SOMEONE OF THE SAME SEX, FOR EXAMPLE.

15 SO IF A MAN LEAVES THE BOARD, WE REPLACE IT  
16 WITH A MAN. IF THE WOMAN LEAVES A BOARD, WE TEND TO  
17 REPLACE IT WITH A WOMAN.

18 AND SO IN THEIR DATA, THEY FIND EVIDENCE  
19 CONSISTENT WITH THIS HYPOTHESIS. SO, FOR EXAMPLE, IF  
20 YOU GO DOWN THE FIRST COLUMN NUMBER OF EXITING FEMALE  
21 DIRECTORS, YOU FIND THAT IN EACH OF THE MODELS THE  
22 COEFFICIENT ON THAT VARIABLE IS POSITIVE, WHICH MEANS  
23 WHEN THERE ARE MORE WOMEN LEAVING THE BOARD, FIRMS ARE  
24 MORE LIKELY TO ADD A WOMAN TO THE BOARD.

25 AND THOSE RESULTS ARE STATISTICALLY  
26 SIGNIFICANT. SORT OF THE FLIP SIDE OF THAT IS WHEN MEN  
27 LEAVE THE BOARD FIRMS ARE LESS LIKELY TO REPLACE WITH A  
28 WOMAN. AND THAT'S DENOTED BY THE NEGATIVE COEFFICIENT

1 ON THE NUMBER OF EXITING MALE DIRECTORS ON THOSE  
2 COEFFICIENTS. AND THOSE TWO ARE ALWAYS STATISTICALLY  
3 SIGNIFICANT.

4 TO GO BACK TO OUR DISCUSSION OF WHAT MAKES A  
5 MORE RIGOROUS STUDY, OTHER THAN THE FACT THAT THERE ARE  
6 NO PICTURES IN THIS STUDY, NOTE THAT THERE ARE ESTIMATES  
7 OF THE UNCERTAINTY OF THESE PARAMETER ESTIMATES, WAYS TO  
8 FIGURE OUT STATISTICAL SIGNIFICANCE AS AN INDICATOR, A  
9 MUCH MORE FULL DISCUSSION OF THE METHODOLOGY AND THE  
10 DATA.

11 BUT THEN IN TERMS OF METHODOLOGICAL  
12 SOPHISTICATION, THIS STUDY USES PANEL DATA AND IT USES  
13 THOSE FIXED EFFECTS THAT WE TALKED ABOUT EARLIER.

14 SO IT'S SAYING FOR A GIVEN FIRM, WHEN A MAN  
15 LEAVES WHAT IS THE LIKELIHOOD THAT WE ADD A WOMAN. FOR  
16 A GIVEN FIRM, WHEN A WOMAN LEAVES WHAT'S THE LIKELIHOOD  
17 THAT WE ADD A WOMAN.

18 NOW, IF ONE WANTED TO PUSH WHAT IS THE  
19 ASSUMPTION THAT'S GOING ON HERE, ESSENTIALLY THEY'RE  
20 TREATING THE EXIT OF PEOPLE FROM THE BOARD AS THEIR  
21 SHOCK.

22 AND WE COULD GO BACK AND FORTH ON WHETHER  
23 THAT'S AN ADEQUATE SHOCK OR WHAT ASSUMPTIONS ARE  
24 NECESSARY FOR THAT TO BE AN ADEQUATE SHOCK, BUT AT LEAST  
25 SORT OF THE FORM OF THE RESEARCH IS IN THE MORE MODERN  
26 FRAMEWORK.

27 Q. AND GIVEN THE RIGOR THAT THEY APPLIED IN THIS  
28 PARTICULAR STUDY, YOU SAID THESE NUMBERS ARE

1 STATISTICALLY SIGNIFICANT. ARE YOU STATING THAT AS A  
2 CONCLUSION BASED UPON THIS STUDY OR ARE YOU STATING THAT  
3 THEY'RE INDICATING THAT?

4 A. I'M SAYING THAT THE STUDY IS A METHODOLOGICALLY  
5 SOUND STUDY, AND THAT IS WHAT THEY FIND. ONE COULD I  
6 SUPPOSE RAISE QUESTIONS AS TO WHETHER IT REALLY IS A  
7 SHOCK OF SOMEONE LEAVING THE FIRM, WHETHER THAT REALLY  
8 CONSTITUTES ENOUGH OF A NATURAL EXPERIMENT.

9 BUT AT LEAST THIS IS THE KIND OF STUDY THAT  
10 WOULD GET CREDIBILITY AMONG EXPERTS.

11 ONE THING I WOULD NOTE, THOUGH, IS IT IS SORT  
12 OF INTERESTING. IT DOESN'T GET MUCH DISCUSSION IN THE  
13 STUDY. THE PROPENSITY TO MATCH FEMALE FOR FEMALE IS  
14 LARGER THAN THE PROPENSITY TO MATCH MALE FOR MALE.

15 AND SO WE GET THAT, FOR EXAMPLE, IN TERMS OF  
16 LOOKING AT -- IN MODEL ONE, FOR EXAMPLE, YOU SEE THAT  
17 THAT COEFFICIENT IS LARGER -- THE COEFFICIENT FOR THE  
18 NUMBER OF EXITING FEMALE DIRECTORS IS LARGER THAN FOR  
19 EXITING MALE DIRECTORS.

20 NOW, IN SOME OF THE OTHER MODEL SPECIFICATIONS,  
21 THAT EFFECT REVERSES. SO IN TERMS OF WHAT OUR NET  
22 BELIEF IS AS TO HOW IMPORTANT THIS MATCHING PHENOMENON  
23 IS FOR TENDING TOWARD PARITY, THE RESULTS ARE MIXED IN  
24 THIS STUDY FOR SURE, EVEN THOUGH THEY TEND TO FIND SOME  
25 EVIDENCE CONSISTENT WITH MATCHING WHAT THE NET OR TOTAL  
26 EFFECT ON OVERALL BOARD COMPOSITION. IT DEPENDS ON  
27 WHICH OF THE MODELS YOU CHOSE.

28 Q. SO COULD YOU JUST POINT ME DIRECTLY TO THE

1 NUMBERS YOU JUST REFERRED TO?

2 A. SURE. SO UNDER MODEL ONE, THE COEFFICIENT FOR  
3 THE VARIABLE NUMBER OF EXITING FEMALE DIRECTORS, AS I  
4 SAID BEFORE, IS POSITIVE. IT'S POSITIVE 0.6911.

5 THE MIRROR COEFFICIENT NUMBER OF EXITING MALE  
6 DIRECTORS -- SO AGAIN, THIS IS ASKING WHEN MEN LEAVE OR  
7 WHEN A NUMBER OF MEN LEAVE, WHAT IS THE LIKELIHOOD THAT  
8 WE APPOINT A WOMAN -- YOU HAVE A NEGATIVE COEFFICIENT,  
9 WHICH MEANS WE'RE LESS LIKELY TO APPOINT A WOMAN.

10 BUT THAT COEFFICIENT IS SMALLER IN MAGNITUDE.  
11 SO .2635 VERSUS .6911. SO IF WE HAD A FLOW -- TO MAKE  
12 THINGS VERY SIMPLE, IF HE HAD A FLOW OF EQUAL NUMBERS OF  
13 MEN AND WOMEN LEAVING, RIGHT, THE HIGHER PROPENSITY TO  
14 MATCH WOMEN TO WOMEN THAN THERE IS A PROPENSITY TO MATCH  
15 MEN TO MEN WOULD END UP CLOSING THE GAP.

16 NOW, OF COURSE IN MODEL TWO, THREE, ET CETERA,  
17 THAT'S REVERSED. AND SO THAT'S WHY I SAY THIS PAPER  
18 PRESENTS SOMEWHAT MIXED EVIDENCE EVEN THOUGH IT HAS  
19 EVIDENCE CONSISTENT WITH THIS MATCHING HYPOTHESIS. IF  
20 WE WERE TO ASK, WELL, OKAY, WHAT'S THE LONG-RUN EFFECT  
21 OF THIS MATCHING EXISTING, IT WOULD DEPEND ON WHICH OF  
22 THEIR MODELS YOU PREFER ESSENTIALLY.

23 Q. AND JUST COULD YOU JUST SUMMARIZE FOR US THE  
24 DIFFERENCE IN THE MODELS OR WHAT THEIR -- WHY THERE ARE  
25 DIFFERENT MODELS?

26 A. SO DIFFERENT MODELS CONTROL FOR DIFFERENT  
27 THINGS IN THIS. SO IF YOU'LL NOTE, MODEL FOUR HAS, YOU  
28 KNOW, MORE TERMS THAT ARE CONTROLLED FOR THAN MODEL ONE

1 OR TWO.

2 THERE'S ALSO A DIFFERENCE AS TO WHETHER YOU  
3 INCLUDE THOSE FIRM FIXED EFFECTS OR DON'T.

4 SO IT DOES -- THERE IS SOME -- YOU KNOW, THERE  
5 IS SOME VARIABILITY IN WHAT RESULTS THEY FIND.

6 Q. BEYOND TABLE 2, IS THERE ANYTHING ELSE ABOUT  
7 THIS STUDY YOU SHOULD HIGHLIGHT?

8 A. YES, THIS STUDY ALSO DOES SORT OF LABORATORY  
9 EXPERIMENTS, SO --

10 Q. WHAT'S A LABORATORY EXPERIMENT?

11 A. ESSENTIALLY WE TALKED ABOUT EXPERIMENTS BEFORE.  
12 AND SO THIS IS USING IN A SENSE ARTIFICIAL DATA, RIGHT.  
13 SO WE TALKED BEFORE ABOUT HOW YOU CAN'T GO TO A FIRM AND  
14 JUST SAY, OKAY, RANDOMLY THIS SET OF FIRM GETS MORE  
15 WOMEN, THIS SET OF FIRMS DOESN'T.

16 BUT WHAT YOU COULD DO AND WHAT THEY DO DO IS  
17 OFTENTIMES RESEARCHERS, BECAUSE WE HAVE ACCESS TO  
18 STUDENTS, YOU'LL GET STUDENTS TO COME. YOU GET 100  
19 STUDENTS TO AGREE TO SHOW UP. YOU PROVIDE THEM  
20 DIFFERENT SCENARIOS. YOU RANDOMIZE THEM INTO DIFFERENT  
21 GROUPS AND THEN YOU TRY TO ESSENTIALLY RUN AN EXPERIMENT  
22 THAT MIMICS THE REAL WORLD SETTING THAT YOU WOULD LIKE  
23 STUDY, BUT YOU CAN'T RUN THE EXPERIMENT IN THE REAL  
24 WORLD.

25 Q. AND WHY IS THAT SIGNIFICANT?

26 A. SO IT'S A TRADEOFF BETWEEN WHAT WE MIGHT THINK  
27 OF AS -- IN SCIENTIFIC SPEAK, IT'S A TRADEOFF BETWEEN  
28 WHAT WE THINK OF AS INTERNAL VALIDITY VERSUS EXTERNAL

1 VALIDITY. IN LEGAL SPEAK SOMETIMES WE TALK ABOUT THE  
2 DIFFERENCE BETWEEN RELIABILITY AND RELEVANCE.

3 SO IF, AS WE TALKED ABOUT YESTERDAY,  
4 EXPERIMENTS HAVE ALL THESE POSITIVE ATTRIBUTES IN TERMS  
5 OF THE RELIABILITY OF CAUSAL INFERENCES, WE WOULD LOVE  
6 TO RUN AN EXPERIMENT, BUT IF WE CAN ONLY RUN AN  
7 EXPERIMENT IN AN ARTIFICIAL SETTING, WE MIGHT WORRY IF  
8 THAT ARTIFICIAL SETTING IS JUST TOO DIFFERENT FROM THE  
9 REAL WORLD TO BE ABLE TO, YOU KNOW, SAY THAT THE RESULTS  
10 ARE RELEVANT TO THE REAL WORLD SETTING.

11 Q. ANYTHING FURTHER ABOUT THIS STUDY, PROFESSOR?

12 A. YES. SO -- LET'S SEE WHERE I CAN FIND THE  
13 RELEVANT TABLE.

14 SO ESSENTIALLY IN SOME OF THE LABORATORY  
15 EXPERIMENTS, THEY FIND WHEN THEY MANIPULATE THE SEX OF  
16 THE POTENTIAL BOARD -- YOU KNOW, PERSON TO FILL A BOARD  
17 SPOT, THEY FIND SOME VARIATION AS TO THE LIKELIHOOD OR  
18 THE STRENGTH OF THIS MATCHING PROPENSITY IN THE  
19 LABORATORY EXPERIMENTS.

20 BUT WHAT I THINK IS ADDITIONALLY INTERESTING IS  
21 THEY DO FIND THAT THIS EFFECT CAN BE ATTENUATED BY  
22 MAKING THE AVAILABLE POOL OF AVAILABLE WOMEN -- IT TENDS  
23 TO REDUCE THE LIKELIHOOD OF THIS MATCHING PROPENSITY.

24 BUT AGAIN, IT WAS IN THE LABORATORY SETTING,  
25 AND SO TO THE EXTENT THAT IT CAN THEN CARRY OVER INTO  
26 THE REAL WORLD SETTING IS A JUDGMENT, A SUBJECTIVE  
27 JUDGMENT TO SOME EXTENT. BUT IT AT LEAST RAISES THE  
28 POSSIBILITY THAT MATCHING, IF IT EXISTS, MIGHT BE

1 ATTENUATED BY HAVING SORT OF EASIER AVAILABLE OR LARGER  
2 POOLS OF QUALIFIED CANDIDATES.

3 Q. ANYTHING FURTHER, PROFESSOR, ON THIS EXHIBIT?

4 A. NO.

5 Q. AND SO WE ASKED YOU ACTUALLY TO SELECT A FEW  
6 STUDIES THAT PROFESSOR KONRAD -- OR DR. KONRAD HAD  
7 ADDRESSED IN HER PRESENTATION TO THE COURT. AND THIS IS  
8 ONE OF THE STUDIES YOU SELECTED; IS THAT RIGHT?

9 A. SURE. YEAH, I WAS -- I LOOKED AT A NUMBER OF  
10 THE STUDIES. THIS IS ONE OF THE STUDIES I LOOKED AT.

11 Q. BECAUSE WE'RE TRYING TO MAKE YOUR TESTIMONY A  
12 LITTLE MORE EFFICIENT, WE'RE NOT GOING TO DO EVERYTHING  
13 DR. KONRAD DISCUSSED, BUT THESE ARE MORE OF THE  
14 HIGHLIGHT ONES THAT YOU THINK ARE IMPORTANT FOR US TO  
15 KNOW ABOUT; IS THAT RIGHT?

16 A. YES. THAT LAST STUDY FROM A METHODOLOGICAL  
17 STANDPOINT WAS SUBSTANTIALLY BETTER THAN CERTAINLY ANY  
18 OF THE CONSULTANCY STUDIES, FOR EXAMPLE.

19 Q. CAN YOU START WITH EXHIBIT 259? EXCUSE ME,  
20 260.

21 MR. STICHT: I'VE JUST BEEN CORRECTED, SO I CAN  
22 CORRECT THE RECORD, WE ACTUALLY PICKED A GROUP OF  
23 STUDIES FROM BOTH DR. KONRAD AND PROFESSOR SCHIPANI.

24 WE'RE GOING TO START AT 260.

25 BY MR. STICHT:

26 Q. CAN YOU JUST TELL US WHAT THIS IS ABOUT AND WHY  
27 WE'VE SELECTED IT TO DISCUSS?

28 A. SURE. IT'S A LAW REVIEW ARTICLE THAT SORT OF

1 HAS TWO SORT OF SECTIONS. ONE IS SORT OF A QUALITATIVE,  
2 MORE TRADITIONAL LAW REVIEW TREATMENT OF -- YOU KNOW, OF  
3 SORT OF THE LEGAL ENVIRONMENT AND THE INSTITUTIONAL  
4 ENVIRONMENT THAT EXISTS IN TERMS OF PROVIDING MORE  
5 OPPORTUNITIES FOR WOMEN IN FIRMS AND IN SORT OF HIGHER  
6 POSITIONS AND FIRMS.

7 BUT THEN THERE IS ALSO AN EMPIRICAL ANALYSIS,  
8 WHICH FOR OUR PURPOSES I THINK IS PROBABLY -- IT WAS  
9 PROBABLY MORE RELEVANT.

10 Q. SO WHAT ARE PROFESSOR SCHIPANI AND HER  
11 CO-AUTHORS DOING IN THAT EMPIRICAL STUDY?

12 A. SO THEY ESSENTIALLY -- I BELIEVE THEY DID A  
13 SURVEY OF A NUMBER OF PEOPLE ASKING THEM SORT OF WHAT  
14 LEVEL OF PEER SATISFACTION THAT THEY HAVE, WHAT IS THEIR  
15 POSITION IN A FIRM, WHAT IS THEIR LEVEL OF MENTORSHIP,  
16 WHAT IS THEIR -- HOW MUCH DO THEY BENEFIT FROM A  
17 PROFESSIONAL NETWORK, THINGS OF THAT NATURE.

18 AND SO FOR MY PURPOSES, IT'S EASIEST TO LOOK AT  
19 SORT OF THE APPENDIX TABLES. IN THE MAIN BODY OF THE  
20 PAPER, THEY ALSO PRESENT GRAPHICAL RESULTS, BUT THEY  
21 ALSO THEN IN THE APPENDIX HAVE MORE STANDARD REGRESSION  
22 TABLES.

23 AND SO JUST IN GENERAL, WE DO WORRY ABOUT  
24 CAUSALITY, AS WE HAVE IN MANY OF THESE STUDIES. AND  
25 THIS STUDY IS NO DIFFERENT.

26 THEY'RE NOT -- AS YOU CAN IMAGINE, THEY'RE  
27 FOCUSING ON, FOR EXAMPLE, THE RESPONDENT'S SEX TO SORT  
28 OF SEE WHAT EFFECT THE RESPONDENT SEX HAS ON PEER

1 SATISFACTION, POSITION IN THE ORGANIZATION, WHETHER THEY  
2 GET MENTORING AND THINGS LIKE THAT.

3 AND OF COURSE ONE COULDN'T RANDOMIZE SEX. YOU  
4 KNOW, THAT CONCEPTUALLY WOULDN'T BE POSSIBLE. SO YOU'RE  
5 ALWAYS GOING TO HAVE CONCERNS ABOUT CAUSAL INFERENCES IN  
6 THIS CONTEXT.

7 SO THIS IS MORE JUST A STRAIGHTFORWARD  
8 REGRESSION STUDY, BUT IT ALLOWS ONE TO CONTROL FOR OR  
9 ADJUST FOR OTHER VARIABLES, THE AGE OF THE RESPONDENT,  
10 FOR EXAMPLE, HOW BIG IS THE FIRM, WHAT IS THE  
11 EDUCATIONAL LEVEL OF THE RESPONDENT. THINGS OF THAT  
12 NATURE.

13 AND WHAT THEY FIND IS THAT THERE IS A  
14 STATISTICALLY SIGNIFICANT RELATIONSHIP BETWEEN THE  
15 RESPONDENT'S GENDER.

16 THE COURT: COULD YOU JUST STOP FOR ONE SECOND.

17 MR. STICHT: SHOULD WE JUST TAKE A BREAK?

18 THE COURT: THANK YOU VERY MUCH.

19 WE'RE GOING TO BE IN RECESS FOR 15 MINUTES AND  
20 THEN WE'LL PICK OURSELVES UP AND CONTINUE ON. THANK YOU  
21 VERY MUCH.

22 COURT IS IN RECESS.

23

24

25

26

27

28

1 (COURT IS IN RECESS.)

2 THE COURT: WE'RE NOW ON THE RECORD IN THE  
3 MATTER THAT WE'RE CURRENTLY IN TRIAL ON. I'LL NOTE FOR  
4 THE RECORD ALL COUNSEL ARE PRESENT AND THE WITNESS ONCE  
5 AGAIN HAS RETAKEN THE WITNESS STAND AND WE WILL  
6 CONTINUE. THANK YOU COUNSEL.

7 MR. STICHT: THANK YOU YOUR HONOR.

8 PROFESSOR KLINK WHEN WE TOOK THE BREAK YOU WERE  
9 ABOUT TO TELL US ABOUT A PARTICULAR ASPECT OF THIS  
10 EXHIBIT 260.

11 THE WITNESS: YES, SO IT'S EASIEST TO SEE IN  
12 THE APPENDIX TABLES. SO THE ARTICLE PAGE 77 THE TRIAL  
13 EXHIBIT PAGE 260 DASH 050. IF WE SEE SORT OF THE MAIN  
14 EFFECTS IN THE TABLE WHAT WE FIND IS THAT FOR EXAMPLE,  
15 THE MEN IN THE STUDY INDICATED THAT THEY WERE STATISTICS  
16 COLLIE LESS LIKELY TO RECEIVE MENTOR SHIP THAN WERE THE  
17 WORRIES.

18 IN THE SAMPLE.

19 AND I THINK THAT'S JUST INTERESTING  
20 PARTICULARLY RELATIVE TO SOME OF THE CLAIMS THAT HAVE  
21 BEEN MADE IN THIS LITERATURE THAT ONE OF THE IMPEDIMENT  
22 TO WOMEN ADVANCING IN THE CORPORATE WORLD IS A LACK OF  
23 MENTOR SHIP.

24 SO THIS PARTICULAR ARTICLE ACTUALLY SEEMS TO  
25 FIND EVIDENCE IN THE OPPOSITE DIRECTION. NOW THAT SAID,  
26 THE EMPIRICAL WORK IN THIS ARTICLE IS NOT PARTICULARLY  
27 CREDIBLE FROM A CAUSAL PERSPECTIVE. THIS IS MERELY  
28 SURVEY RESPONSES AND SOME REGRESSION ADJUSTMENTS.

1 THERE'S NO -- THERE'S IN ATTEMPT TO DO ANYTHING MORE TO  
2 GET TO CAUSALITY.

3 BUT I JUST FLAG IT, BECAUSE IT IS AN  
4 INTERESTING FINDING RELATIVE TO SOME OF THE OTHER CLAIMS  
5 MADE MORE BROADLY IN THIS FIELD.

6 Q. BUT NO MORE DEFICIENT THAN THE OTHER STUDIES  
7 THAT FOUND THE OTHER WAY, CORRECT?

8 A. AS A GENERAL MATTER, CORRECT. SURE.

9 Q. ANYTHING ELSE WE NEED TO TOUCH ON THIS STUDY  
10 BEFORE WE MOVE ON?

11 A. NO. I DON'T THINK SO.

12 Q. ALL RIGHT.

13 SO GENERALLY, YOU WERE RETAINED AS AN EXPERT IN  
14 THIS CASE A FEW MONTHS BACK, RIGHT?

15 A. CORRECT.

16 Q. AND YOU PARTICIPATED IN SUMMARY JUDGMENT  
17 PROCEEDINGS SO YOU REVIEWED A LOT OF LITERATURE THAT MAY  
18 OR MAY NOT HAVE BEEN DISCUSSED HERE TODAY, CORRECT?

19 A. CORRECT.

20 Q. OKAY.

21 SO YOU'RE FAMILIAR WITH ALL OF THE STUDIES  
22 BASICALLY THAT HAVE BEEN PUT FORWARD IN THE SUMMARY  
23 JUDGMENT CASE OR WHAT WE'VE DISCUSSED TODAY, RIGHT?

24 A. THAT'S CORRECT.

25 Q. COULD YOU JUST SUMMARIZE FOR US A LITTLE BIT  
26 JUST IN THE INTEREST OF TIME GO A LITTLE BROADER INTO  
27 THE UNIVERSE OF LITERATURE THAT'S OUT THERE AND TELL ME  
28 WHAT YOU HAVE FOUND?

1           A.     SO IN THE LITERATURE THAT I READ PARTICULARLY  
2 AT THE SUMMARY JUDGMENT STAGE OF THIS TRIAL, WAS  
3 SUGGESTIVE THAT THE LITERATURE MORE BROADLY IS COMPOSES  
4 OF A WIDE RANGE OF LEVELS OF SOPHISTICATION OF RESEARCH  
5 DESIGN. THERE ARE PAPERS LIKE THE ILR PAPER THAT WE  
6 JUST DISCUSSED PRIOR TO THE BREAK THAT WAS ACTUALLY  
7 PRETTY GOOD FROM A METHODOLOGY PERSPECTIVE.

8                     BUT THEN THERE ARE ALSO A NUMBER OF PAPERS THAT  
9 DO LITTLE MORE THAN DESCRIPTIVE STATISTICS WITH NO REAL  
10 ATTEMPT TO MAKE ANY CAUSAL INFERENCES AND THERE ARE A  
11 NUMBER OF PAPERS THAT RUN REGRESSIONS BUT, YOU KNOW  
12 CLEARLY ARE NOT ADJUSTING FOR SUFFICIENT NUMBER OF OTHER  
13 FACTORS TO SAY NOTHING OF ADJUSTING FOR UNOBSERVABLE  
14 FACTORS USING THESE NATURAL EXPERIMENT TYPES, SO THERE'S  
15 A WIDE RANGE OF LITERATURE OUT THERE. AND THE RESULTS  
16 BROADLY SPEAKING IN TERMS OF THE SO CALLED BUSINESS CASE  
17 FOR DIVERSITY ARE REALLY MIXED. ONE OF THE OTHER THINGS  
18 THAT SORT OF GRABBED MY ATTENTION BOTH IN LOOKING AT THE  
19 LITERATURE RELIED ON IN 826 ITSELF BUT THEN ALSO IN SOME  
20 OF THE DECLARATIONS AT THE SUMMARY JUDGMENT STAGE IS IT  
21 APPEARS AS THOUGH THERE IS A FOR LACK OF A BETTER TERM A  
22 CHERRY PICKING THAT'S GOING ON. THAT IS TO SAY THE  
23 STUDIES THAT ARE BEING RELIED ON AS A GENERAL MATTER  
24 DON'T SEEM TO BE CHOSEN FOR RELIABILITY PURPOSES OR EVEN  
25 PARTICULARLY RELEVANCE PURPOSES BUT OFTEN HAVE THE  
26 FLAVOR OF BEING OUTCOME DETERMINATIVE.

27                     THAT IS TO SAY WHILE THERE ARE SOME GOOD  
28 STUDIES OUT THERE THAT WERE CITED IN SOME OF THESE

1 PROCEEDINGS, THERE'S A LOT OF BAD STUDIES ALSO CITED BUT  
2 THEN THERE'S A LOT OF VERY GOOD STUDIES THAT ARE JUST  
3 WHOLLY ABSENT FROM CERTAINLY FROM 826 ITSELF BUT YOU  
4 KNOW MORE BROADLY IN THESE PROCEEDINGS.

5 Q. BY THE TERM CHERRY PICKING, WHAT DO YOU MEAN  
6 FOR EXAMPLE?

7 A. SO IT APPEARS AS THOUGH THERE CAN BE STUDIES  
8 THAT ARE VERY MUCH ON POINT HIGH QUALITY FROM A  
9 METHODOLOGY STANDPOINT IN VERY KIND OF WELL RESPECTIVE  
10 JOURNALS, YOU KNOW BROADLY KNOWN ABOUT AND YET THEY  
11 APPEAR WHOLLY ABSENT FROM THE RECORD AND YET THERE ARE  
12 ALSO MANY STUDIES THAT ARE NOT VERY GOOD FROM A  
13 METHODOLOGY STANDPOINT IN RELATIVELY OBSCURE JOURNALS  
14 THAT HAVE GOTTEN A LOT OF ATTENTION. TO SAY NOTHING OF  
15 ALL THE ATTENTION THAT THE -- THAT THE CONSULTANCY TYPE  
16 REPORTS GET. THAT'S WHAT I MEAN. IT'S A -- IT SEEMED  
17 AS THOUGH THE RECORD DID NOT PROVIDE SORT OF THE FULL  
18 SCOPE OF WHAT THE LITERATURE SAYS AND IT DOESN'T EVEN,  
19 IF YOU SAY, WELL YOU CAN'T READ EVERYTHING OR YOU CAN'T  
20 WRITE ABOUT EVERYTHING, THEN SORT OF A NORMAL APPROACH  
21 WOULD BE TO PRIORITIZE MORE METHODOLOGICALLY  
22 SOPHISTICATED PAPERS WHICH DIDN'T SEEM TO BE THE CASE.

23 Q. AND YOU WOULD WANT THAT FOR WHAT REASON?

24 A. TO GET A MORE COMPLETE PICTURE OF THE STATE OF  
25 KNOWLEDGE ABOUT THE EFFECTS OF THE ABSENCE OF WOMEN ON  
26 BOARDS.

27 Q. ARE ANY OF THOSE IN THE LEGISLATIVE FINDINGS  
28 THAT WE DISCUSSED?

1       A.    NO.  THAT'S -- THAT'S A PLACE WHERE THERE'S  
2  CLEAR -- YOU KNOW, CLEAR CHERRY PICKING OR SELECTIVE  
3  CHOICE GOING ON THERE.

4       Q.    AGAIN YOU'RE NOT -- YOU'RE NOT USING CHERRY  
5  PICKING WITH RESPECT TO -- WELL LET ME ASK YOU:  ARE YOU  
6  USING WHICH HE ROW PICKING IN TERMS OF OUTCOME ORIENTED  
7  LIKE YOU STATED?

8       A.    IT'S HARD -- IT'S LARD TO IMAGINE THE OTHER  
9  EXPLANATIONS.

10            SO FOR EXAMPLE THERE ARE STUDIES THAT WERE  
11  AVAILABLE WELL BEFORE 826, THAT WERE HIGHLY PROMINENT,  
12  HIGH QUALITY METHODOLOGY, SEEMINGLY VERY RELEVANT AND  
13  APPEARED TO BE WHOLLY ABSENT FROM CONSIDERATION THE.

14       Q.    GETS BACK A LITTLE BIT TO WHAT I WAS ASKING YOU  
15  YESTERDAY ABOUT THE OBJECTIVITY IN THE HYPOTHESIS AND  
16  THE OUTCOME ORIENTED APPROACH, RIGHT, THE HYPOTHESIS MAY  
17  BE ONE THING BUT IF WE'RE SEEKING AN OUTCOME YOU MIND  
18  FIND A STUDY THAT SUPPORTS THAT?

19       A.    PERHAPS.

20       Q.    DOES THAT MEAN THAT THESE STUDIES ARE  
21  MISLEADING?

22       A.    I -- I WOULD SAY THAT THE -- THE PRESENTATION  
23  OF THE LITERATURE IS NOT REPRESENTATIVE.

24       Q.    WELL ONE OF THE STUDIES, I GUESS THAT YOU  
25  EMPHASIZED RIGHT, AT SOME POINT IN YOUR RESEARCH FOR  
26  THIS CASE WAS NORWAY, RIGHT?

27       A.    CORRECT.

28       Q.    OKAY, SO NORWAY IS NOT CALIFORNIA SO -- AND

1 IT'S A FOREIGN JURISDICTION BUT ACCEPTING THAT AS A WAY  
2 OF BACKGROUND WHY WAS NORWAY IMPORTANT TO YOU?

3 A. WELL IT'S INTERESTING, ALTHOUGH IT'S A FOREIGN  
4 JURISDICTION, 26 ACTUALLY DOES CITE TO A PAPER, THE  
5 TORCHIA PAPER -- TORCHIA, ET AL. I FORGET THE  
6 CO-AUTHOR -- THAT USES NORWAY DATA. SO FOR THE PURPOSES  
7 OF THAT PAPER, NORWAY WAS SEEN AS RELEVANT.

8 AND YET THERE WERE A NUMBER OF HIGHER QUALITY  
9 NORWEGIAN ANALYSES THAT HAD EXISTED AT THE TIME WHEREIN  
10 MORE PROMINENT OUTLETS AND SEEMED TO BE ENTIRELY  
11 IGNORED.

12 Q. IS THERE ANYONE IN PARTICULAR YOU'D LIKE TO  
13 EMPHASIZE AND WHY?

14 A. SURE.

15 SO ACTUALLY THERE ARE A COUPLE THAT I THINK ARE  
16 RELEVANT. SO THERE'S A 2012 PAPER BY AHERN. A H E.R.  
17 N, AND DITTMAR, D I T T M A R, 2012 PAPER IN THE QUARTERLY  
18 JOURNAL OF ECONOMICS. THE QUARTERLY JOURNAL OF  
19 ECONOMICS IS GENERALLY RECOGNIZED AS THE TOP ONE, TWO,  
20 OR THREE JOURNAL IN THE FIELD OF ECONOMICS.

21 AND WHAT THAT PAPER DID IS IT USED THE NORWAY  
22 EXPERIENCE WHEN NORWAY CREATED A MANDATE FOR WOMEN ON  
23 BOARDS A 40 PERCENT MANDATE FOR WOMEN ON BOARDS. AND  
24 WHAT THAT PAPER DID IS IT LOOKED AT BEFORE AND AFTER,  
25 LIKE WE'VE BEEN TALKING ABOUT IN NATURAL EXPERIMENTS AND  
26 THEN FOR THE COUNTERFACTUAL, THAT PAPER DID A  
27 COUNTERFACTUAL COMPARISON BETWEEN NORWEGIAN FIRMS AT EX  
28 ANTE WILL HAVE HAD ENOUGH WOMEN ON THE BOARD OR AT LEAST

1 CLOSE TO ENOUGH WOMEN ON BOARD TO MEET COMPLIANCE.

2 AND COMPARED THEM TO FIRMS THAT WERE FAR OUT OF  
3 COMPLIANCE.

4 SO THE TREATMENT GROUP THERE WOULD BE FIRMS  
5 THAT HAD VERY FEW OR EVEN NO WOMEN ON BOARDS AND THE  
6 CONTROL OR COMPARISON GROUP WOULD BE NORWEGIAN FIRMS  
7 THAT WERE ALREADY IN COMPLIANCE OR CLOSE TO COMPLIANCE.  
8 AND SO THEY LOOKED AT SORT OF WHAT HAPPENED BEFORE AND  
9 AFTER THE NORWAY LAW WENT INTO EFFECT.

10 AND THEY FOUND THAT THERE WAS A STATISTICALLY  
11 SIGNIFICANT REDUCTION IN FIRM VALUE FOR THE FIRMS THAT  
12 WERE AFFECTED BY THE NORWEGIAN QUOTA. THEY SAW A  
13 REDUCTIONS IN TOW BINS CUE. TOW BINS CUE IS THAT  
14 EARLIER WE TALKED ABOUT FIRM FIRM SO SOME EVIDENCE OF  
15 THE MARKET ESTIMATION OF THE VALUE ADDED BY YOU KNOW THE  
16 FIRMS MANAGEMENT AND SO THEY FOUND THAT THAT WAS REDUCED  
17 FOR FIRMS THAT WERE PARTICULARLY AFFECTED BY THE LAW.

18 THEY ALSO HAD A SEPARATE SET OF COMPARATORS  
19 USING OTHER SCANDINAVIAN COUNTRIES SO COMPANIES IN OTHER  
20 SCANDINAVIAN COUNTRIES THAT WERE OTHERWISE SIMILAR BUT  
21 WERE NOT AFFECTED BY THE LAW AND FOUND SORT OF ROUGHLY  
22 THE SAME RESULT THAT THE NORWEGIAN FIRMS LOST VALUE  
23 AFTER THE LAW CAME INTO EFFECT.

24 RELATIVE TO WHAT WAS GOING ON IN THE OTHER  
25 SCANDINAVIAN COUNTRIES. AND THE PAPER HAS A NONE OF  
26 CITATIONS, WELL MORE THAN 1,000 CITATIONS AND IT'S IN  
27 THE TOP ECONOMIC JOURNAL. CLEARLY ON POINT ASSUMING YOU  
28 THINK NORWAY IS RELEVANT, WHICH 826 CITED TO A DIFFERENT

1 NORWAY STUDY THE DATE MORE PAPER USES MORE MODERN  
2 METHODS NATURAL EXPERIMENTS METHODS TO EXAMINE RELEVANT  
3 EFFECTS.

4 THE FOLLOWING YEAR, 2013, THERE WAS A PAPER BY  
5 MATSA, M A T S A, AND MILLER M I L L E R. IN THE AMERICAN  
6 ECONOMIC JOURNAL APPLIED. AND THAT PAPER ALSO WAS  
7 LOOKING AT THE NORWEGIAN EXPERIENCE.

8 THAT PAPER, IN ADDITION TO SORT OF DOING THE  
9 BEFORE AND AFTER, HAD A SEPARATE SET OF COMPARISONS. SO  
10 IN NORWAY, FIRMS THAT WERE LISTED ON THE STOCK EXCHANGE  
11 WERE AFFECTED BY THE QUOTA WHEREAS FIRMS THAT WERE NOT  
12 LISTED WERE NOT AFFECTED BY THE QUOTA. SO YOU HAD THAT  
13 LEVEL OF COMPARISON. AND THEY FOUND THAT THE  
14 PERFORMANCE METRICS OF THE FIRMS, THE NORWEGIAN FIRMS  
15 THAT WERE AFFECTED BY THE QUOTA RELATIVE TO THESE FIRMS  
16 THAT WERE NOT, THE PERFORMANCE METRICS CAME WAY DOWN ON  
17 PROFITABILITY, THINGS LIKE THAT. LABOR COSTS WERE MUCH  
18 HIGHER FOR THE FIRMS AFFECTED. AND SO THAT IS QUITE A  
19 PROMINENT JOURNAL. IT WAS WELL AVAILABLE TO THE  
20 CALIFORNIA LEGISLATURE, WELL AVAILABLE TO OTHER EXPERTS  
21 IN THIS CASE. AND IT'S WHOLLY MISSING FROM THE RECORD.

22 THERE'S ANOTHER PAPER IN 2014, I BELIEVE BY  
23 STAUBO, S T. A. U B O AND A CO-AUTHOR WHO I CAN'T THINK  
24 OF AT THE MOMENT WHO -- AND THAT PAPER WAS IN THE  
25 JOURNAL OF CORPORATE FINANCE. THE JOURNAL OF CORPORATE  
26 FINANCE, WHILE NOT NEARLY AS PRESTIGIOUS AS QUARTERLY  
27 JOURNAL OF ECONOMICS OR THE AMERICAN ECONOMICS JOURNAL,  
28 BUT IT IS A JOURNAL THAT IS CITED QUITE LIBERALLY IN THE

1 DECLARATIONS BY THEIR EXPERTS IN THIS CASE, JUST NOT  
2 THIS ARTICLE.

3 AND WHAT THE STAUBO ARTICLE FOUND IS THAT IN  
4 NORWAY FIRMS THAT WERE POTENTIALLY TO BE AFFECTED BY THE  
5 LAW SYSTEMATICALLY DELISTED FROM STOCK EXCHANGES TO  
6 AVOID -- TO AVOID THE LAW.

7 AND SO THAT WAS A STATISTICALLY SIGNIFICANT  
8 EFFECT. IT'S NOT QUITE CLEAR HOW THAT CUTS FROM AN  
9 ANALYSIS OF LAWS AFFECTING BOARD COMPOSITION BUT IT  
10 SURELY IS A PIECE OF INFORMATION THAT NEEDS TO BE  
11 RECKONED WITH, I THINK. AND IT TOO HAS A NATURAL  
12 EXPERIMENT SET UP BEFORE AND AFTER WITH COMPARATORS.

13 NOW THERE IS A I BELIEVE IT'S A 2021 ARTICLE BY  
14 ECKBO. EC K B O AND CO-AUTHORS, THAT GO BACK TO THE A  
15 HERB AND DATE MARCH ARTICLE AND TRY TO KIND OF REDO IT  
16 WITH SOME DIFFERENT ASSUMPTIONS AND SOME DIFFERENT TESTS  
17 AND THEY FIND THAT IN THEIR ANALYSIS, THERE REALLY  
18 WASN'T SO MUCH OF AN EFFECT FROM THE LAW, SO I DON'T  
19 WANT TO CLAIM THAT THE HIGHER QUALITY LITERATURE GOES  
20 ALL IN ONE DIRECTION BY ANY MEANS ALL I MEAN TO SAY IS  
21 THAT THERE ARE THESE NATURAL EXPERIMENTS PAPERS OUT  
22 THERE THAT SEEM TO GET LARGELY IGNORED. AND IT SEEMS --  
23 SEEMS STRIKING AND SEEMS A BIT ODD FROM MY PERSPECTIVE.  
24 BECAUSE THE ONE LAST PAPER I GUESS I WOULD LIKE TO NOTE,  
25 JUST BECAUSE IT LOOKS AT SOMETHING AN OUTCOME THAT'S  
26 DIFFERENT BUT ALSO ANALYZES THE NORWEGIAN SITUATION IS A  
27 2019 PAPER BY MARY ANNE BERTRAND B E.R. T R A N D AND  
28 CO-AUTHORS AND THAT PAPER IS IN THE REVIEW OF ECONOMIC

1 STUDIES.

2 AND IT TOO HAS A NATURAL EXPERIMENTS FRAMEWORK  
3 BUT WHAT THEY'RE LOOKING AT IS WHETHER IN FACT THE  
4 NORWEGIAN LAW INCREASED THE NUMBER OF WOMEN ON BOARDS  
5 AND IN FACT THEY FOUND THAT IT DID. AND IT FOUND OUT  
6 THAT IT INCREASED THE PAY, PAID TO, WOMEN ON BOARDS.  
7 BUT INTERESTING THEY FOUND THAT THERE WAS ESSENTIALLY NO  
8 TRICKLE DOWN EFFECT.

9 YOU KNOW SOME OF THE LITERATURE IN THIS AREA  
10 SUGGESTS THAT ONCE WE GET WOMEN IN HIGHER POSITIONS,  
11 BOARD POSITIONS, THINGS LIKE THAT, THAT IT WILL IMPROVE  
12 THE CONDITION FOR OTHER WOMEN IN FIRMS OR BUSINESSES.  
13 THE BERTRAND PAPER FINDS THAT YOU DON'T SEE ANY INCREASE  
14 IN PAY FOR OTHER WOMEN EXECUTIVES OR OTHER WOMEN AT  
15 OTHER EMPLOYMENT POSITIONS IN THE COUNTRY AND SO YOU  
16 KNOW THAT PAPER IS SORT OF INTERESTING IN SORT OF  
17 TESTING THIS IDEA THAT ONCE YOU GET SORT OF BOARDS  
18 WORKED OUT THERE WILL BE MANY OTHER DIVERSITY DIVIDENDS.  
19 SO I THINK THERE'S A NUMBER OF THESE PAPERS THAT ARE  
20 SORT OF HIGH QUALITY METHODOLOGICALLY HAVE BEEN  
21 AVAILABLE HAVE BEEN HIGH PROFILE AND YET SEEM MISSING  
22 FROM THE COVERAGE. WHICH IS WHY I HAVE THIS KIND OF  
23 VIEW THAT THE PRESENTATION OF THE LITERATURE IS NOT  
24 CERTAINLY NOT COMPLETE BUT NOT EVEN REPRESENTATIVE.

25 Q. YOU'VE GIVEN US A COUPLE OF EXAMPLES, THREE OR  
26 FOUR ACTUALLY OF STUDIES THAT FOUND OPPOSITE RESULTS IN  
27 PERFORMANCE AND THE LAST ONE YOU JUST MENTIONED NOT  
28 SUGGESTING OTHER DIVIDENDS FROM CHANGING THE COMPOSITION

1 OF THE BOARD STUDIES THAT ARE IGNORED.

2 ARE THERE OTHER MISSING LITERATURE THAT MAYBE  
3 OUT THERE? THESE ARE JUST ILLUSTRATIVE?

4 A. YES. AND SO IT IS INTERESTING. IF ONE YOU  
5 KNOW IF ONE DOES SORT OF GENERIC LITERATURE VIEWS  
6 OUTSIDE OF THE -- EITHER THE LITIGATION OR THE POLICY  
7 CONTEXT, THOSE LITERATURE VIEWS TEND TO NOTE THAT THE  
8 RESULTS ARE QUITE MIXED. IN TERMS OF -- IN TERMS OF THE  
9 SO CALLED BUSINESS CASE FOR DIVERSITY. AND I DON'T  
10 THINK CERTAINLY FROM THE TEXT OF 826, BUT NOR FROM SOME  
11 OF THE OTHER DECLARATIONS THAT I READ, YOU REALLY DON'T  
12 GET THAT FLAVOR FROM THEM. THE FACT THAT THERE IS QUITE  
13 A BIT OF MIX, EVEN IF YOU'RE NOT DISTINGUISHING ON HIGH  
14 QUALITY, LOW QUALITY, YOU HAVE SORT OF A RANGE OF  
15 RESULTS OUT THERE AND I DON'T THINK YOU GET THAT SENSE  
16 FROM SOME OF WHAT'S BEEN PRESENTED IN THIS CONTEXT.

17 Q. IS THAT -- IS IT FAIR TO SUMMARIZE BY SAYING  
18 THE RESULTS ARE MIXED?

19 A. FOR SURE, YES.

20 Q. BEFORE WE MOVE ON, OF THE STUDIES YOU JUST  
21 MENTIONED, I THINK THERE WERE FOUR IN PARTICULAR, NORWAY  
22 STUDIES?

23 A. SURE.

24 Q. DID THEY DISCUSS WHY THEY OBTAINED THOSE  
25 RESULTS OR HOW THOSE RESULTS CAME ABOUT? IS IT THROUGH  
26 THE METHODOLOGY IN OTHER WORDS OR IS THE DATA DIFFERENT?  
27 WHAT -- WHAT'S THE REASON FOR THE OPPOSITE OUTCOME?

28 A. WELL SO THE DATA THEY USE IS ALL PUBLIC DATA.

1 PUBLIC NORWEGIAN DATA. SO IT IS AVAILABLE FOR  
2 ESSENTIALLY ANYONE TO STUDY IN THE MORE SOPHISTICATED  
3 METHODOLOGICAL DESIGNS, SO I'M NOT SURE IF THAT ANSWERS  
4 YOUR QUESTION, BUT THEY GOT THE RESULTS BECAUSE THEY  
5 TOOK THE PUBLIC DATA, THEY APPLIED THE MODERN  
6 SOPHISTICATED TOOLS TO THEM AND THEY PRESENTED THE  
7 RESULTS THAT THEY GOT.

8 Q. YES.

9 ARE THESE STUDIES BETTER THAN THE ONES THAT  
10 WERE PRESENTED IN THE LEGISLATIVE FINDINGS?

11 A. METHODOLOGICALLY, YES.

12 THEY -- THE STUDIES THAT SORT OF VIEW THESE  
13 MORE MODERN NATURAL EXPERIMENTS. FRAMEWORKS EXPLORE THE  
14 PANEL DATA TO ITS FULLEST EXTENT.

15 HANDLE HANDLE THE ACCOUNTING FOR UNCERTAINTY IN  
16 THE -- IN THE METHODOLOGICALLY CORRECT WAY.

17 Q. DOES BETTER THAN LEAD TO MORE RELIABLE?

18 A. YES. THE CAUSAL INFERENCES ARE MORE RELIABLE  
19 THAN THEY ARE IN OTHER STATES.

20 Q. YOU'VE DRAWN A DISTINCTION BETWEEN RELIABILITY  
21 AND RELEVANCE IN THE LEGAL CONTEXT. DOES IT ALSO MEAN  
22 THEY SHOULD BE RELEVANT OR ARE MORE RELEVANT?

23 A. THAT'S A LOT MORE SUBJECTIVE OF A  
24 DETERMINATION, AND I KNOW WE'RE IN CALIFORNIA, SO THE  
25 DAUBERT DOESN'T APPLY, BUT UNDER THE JOINDER PART OF THE  
26 DAUBERT TRILOGY, THE COURT MADE QUITE CLEAR THAT  
27 RELEVANCE IS A SUBJECTIVE DETERMINATION, AND SO A  
28 REASONABLE PERSON MIGHT SAY, NORWAY IS NOT THE U.S.,

1 NORWAY IS NOT CALIFORNIA, HOWEVER, INTELLECTUAL  
2 CONSISTENCY, I THINK MIGHT REQUIRE THAT IF YOU WERE  
3 USING THE NORWAY EXPERIENCE FOR ONE PURPOSE, THAT AT  
4 LEAST IMPLICITLY RECOGNIZES SOME RELEVANCE.

5 Q. OKAY. I WANT TO ASK YOU ABOUT -- WE'VE HEARD  
6 SOME TESTIMONY IN THIS CASE ABOUT QUALIFIED POOL OR THE  
7 POOL OF WOMEN AVAILABLE TO FILL BOARD SEATS?

8 A. UH-HUH.

9 Q. BEFORE I DO THAT, MAYBE WE CAN TRANSITION BY  
10 JUST POINTING BACK TO THE STUDIES AGAIN. THE  
11 DIFFERENCES IN THE OUTCOMES, RIGHT WE'RE NOT NECESSARILY  
12 DUE TO -- SO IF THE FIRMS PERFORMED -- I'LL ASK IT IN  
13 THE FORM OF A QUESTION.

14 IF THE FIRMS PERFORMED WEAKER IS THAT -- DID  
15 THE STUDIES FIND THAT WAS DUE TO WOMEN ON THE BOARDS?

16 A. SO WHAT THEY FOUND IT WAS DUE TO THE LAW. AND  
17 THE LAW AFFECTED THE COMPOSITION OF THE BOARDS.

18 Q. SO IS THE POOL RELEVANT TO THE STUDIES WE'VE  
19 DISCUSSED IN THE METHODOLOGICAL STUDIES, YOU KNOW -- THE  
20 METHODOLOGIES THAT YOUR AN EXPERT ON, IS THE POOL  
21 RELEVANT TO THE WHOLE QUESTION?

22 A. DEPENDS ON WHAT ARE YOU COUNTING AS THE WHOLE  
23 QUESTION. ARE YOU COUNTING THE QUESTION AS IS THERE A  
24 BUSINESS CASE FOR DIVERSITY OR ARE YOU COUNTING THE  
25 QUESTION AS SOMETHING ELSE.

26 Q. WELL IN TERMS OF FINDINGS THAT ARE IN THE  
27 STATUTE THAT THE LEGISLATURE FINDS WITH RESPECT TO  
28 EFFICIENCY 40 TO 50 OR 60 YEARS TO REACH GENDER PARITY

1 FOR EXAMPLE.

2 ANOTHER EXAMPLE WAS JUST PURE DATA POINTS THERE  
3 WERE SO MANY WOMEN ON BOARDS, THERE WERE SO MANY MEN ON  
4 BOARDS AT A GIVEN POINT IN TIME PRIOR TO THE STATUTE.

5 AND ANOTHER EXAMPLE ABOUT PERFORMANCE, RIGHT,  
6 YOU SAW DIFFERENT PERFORMANCE MEASURES, NOT JUST BOOK  
7 VALUE AND MARKET CAPITALIZATION, BUT ALSO THE INVASION  
8 AND THOSE OTHER THINGS YOU'VE TALKED ABOUT. MORE  
9 ABSTRACT BENEFITS SO TO SPEAK OF WOMEN ON BOARDS.

10 WE'VE HEARD A LOT OF TESTIMONY IN THIS CASE  
11 ABOUT THE POOL. THAT THERE'S A POOL OF QUALIFIED WOMEN  
12 TO FILL THESE PLACES. DID THE POOL PLAY ANY ROLE IN  
13 THESE STUDIES OF ANY PARTICULAR SIGNIFICANCE?

14 MR. SEFERIAN: OBJECTION, LACKS FOUNDATION,  
15 CALLS FOR SPECULATION, BEYOND THE SCOPE OF EXPERTISE OF  
16 THIS WITNESS.

17 THE COURT: COULD YOU PLEASE RESTATE YOUR  
18 QUESTION.

19 BY MR. STICHT:

20 Q. RIGHT.

21 SO THE FIRST PART OF MY QUESTION IS A  
22 STATEMENT.

23 WE'VE HEARD A LOT OF TESTIMONY ABOUT A POOL.  
24 OF QUALIFIED WOMEN.

25 YOU'RE HERE AS AN EXPERT TO TELL US  
26 STATISTICALLY HOW STUDIES SHOULD BE CONDUCTED AND TO YES  
27 TEAK STUDIES THAT HAVE BEEN PRESENTED TO THE LEGISLATURE  
28 CITED BY THE LEGISLATURE AND EVEN CITED BY EXPERTS IN

1 THIS CASE. CORRECT?

2 A. CORRECT.

3 Q. ALL RIGHT.

4 IN THOSE STUDIES, WHICH YOU'VE ALREADY  
5 ADMITTEDLY REVIEWED AND ANALYZED, WAS THE POOL OF WOMEN  
6 IMPORTANT TO THOSE STUDIES?

7 MR. SEFERIAN: OBJECTION.

8 THE WITNESS: NO.

9 MR. SEFERIAN: OBJECTION, CALLS FOR  
10 SPECULATION, LACKS FOUNDATION.

11 BEYOND THE SCOPE OF EXPERTISE.

12 THE COURT: OVERRULED.

13 THE WITNESS: SO NOT DIRECTLY. IN TERMS OF THE  
14 STUDYING THE BUSINESS CASE. I THINK INDIRECTLY IN TERMS  
15 OF THE -- IF YOU ACCEPT THE BUSINESS CASE, WHICH MUCH OF  
16 WHAT I'VE SAID.

17 Q. TELL US WHAT YOU MEAN BY THE BUSINESS CASE?

18 A. THAT'S THE TEMPLE OF ART THAT PEOPLE HAVE BEEN  
19 USING IN AT LEAST THE ACADEMIC SPHERE TO SORT OF NAME  
20 THIS GENERAL ARGUMENT THAT HAVING MORE DIVERSE AND THIS  
21 STAYS MORE DIVERSE ALONG THE SEX DIMENSION BOARDS WILL  
22 LEAD TO BETTER FIRM PERFORMANCE, THAT'S WHAT PEOPLE HAVE  
23 BEEN REFERRING TO AS THE BUSINESS CASE FOR PERFORMANCE.

24 Q. THANK YOU?

25 A. SO IN TERMS OF THE DIRECT STUDIES THAT I'VE  
26 BEEN SPEAKING ABOUT AND THE METHODOLOGY, POOL WOULD SEEM  
27 TO NOT BE DIRECTLY RELEVANT. THE QUESTION THAT WOULD --  
28 WHERE IT WOULD BECOME RELEVANT IS IS TO ACCEPT THAT

1 BUSINESS CASE AND YOU SAY, WE SHOULD INDUCE FIRMS BY --  
2 BY INDUCEMENT, BY INCENTIVE OR BY REQUIREMENT, TO GO AND  
3 EX EMPLOYED THIS BUSINESS CASE, THE FEASIBILITY OF THAT  
4 WOULD NECESSARILY DEPEND ON A POOL AS YOU'VE DESCRIBED  
5 IT.

6 Q. THAT'S A PRACTICAL CONSIDERATION?

7 A. CORRECT. YES.

8 Q. HAVE YOU LOOKED AT ANY DATA WITH RESPECT TO  
9 EDUCATIONAL QUALIFICATIONS IN THE ACADEMIC AREA?

10 MR. SEFERIAN: YOUR HONOR I WOULD OBJECT TO  
11 THIS LINE OF TESTIMONY, THIS IS BEYOND THE SCOPE OF THE  
12 DESIGNATION OF THIS EXPERT. TALKING ABOUT THE POOL OF  
13 AVAILABLE QUALIFIED WOMEN TO SERVE ON CORPORATE BOARDS  
14 THE.

15 THE EXPERTS DESIGNATION SAYS THAT MR. KLINK  
16 WILL ANALYZE THE EVIDENCE PRESENTED IN THREE OF THE  
17 DECLARATIONS PROVIDED IN SUPPORT OF THE SECRETARIES  
18 MOTION HE WILL PROVIDE OVERVIEW OF HIS ANALYSIS OF THE  
19 UNDERREPRESENTATION CLAIM, MR. KLINK WILL PROVIDE A  
20 STATISTICS AND CAUSAL INFERENCE, HE WILL PROVIDE A  
21 GENERAL CONCLUSION. THERE'S NO INDICATION THAT HE'S  
22 GIVING AN OPINION ABOUT THE POOL OF AVAILABLE QUALIFIED  
23 WOMEN AND IT HASN'T BEEN ESTABLISHED THROUGH HIS  
24 TESTIMONY THAT HE'S AN EXPERT IN THE AVAILABLE POOL OF  
25 WOMEN TO SERVE ON CORPORATE BOARDS. SO WE WOULD OBJECT  
26 TO THIS LINE OF QUESTIONING ON THAT BASIS.

27 THE COURT: COUNSEL FOR THE PLAINTIFF, WOULD  
28 YOU RESPOND.

1 MR. STICHT: WELL ONE RESPONSE IS THAT WE'RE  
2 NOT GOING BEYOND THE FACT THAT THIS IS A DATA EXPERT.  
3 AND A DATA ANALYST AND AN ECONOMIST AS WELL AS A LAW  
4 PROFESSOR.

5 WE'RE TRYING TO APPROACH THE POOL STRICTLY FROM  
6 THE POINT OF VIEW OF HIS EXPERTISE. PROFESSOR GROUNDS  
7 CAME IN HERE AND TESTIFIED ABOUT THE POOL. SHE WAS NOT  
8 DESIGNATED ON THE POOL.

9 SO WE ALLOWED THAT BECAUSE SHE JUST  
10 TRANSGRESSED INTO HER OWN TESTIMONY TO TALK ABOUT THE  
11 POOL.

12 SO TO THE EXTENT THAT THE THE COURT WOULD GIVE  
13 US SOME LEEWAY WHY WE'RE NOT REALLY REACHING AN OPINION  
14 ON THE POOL BUT INSTEAD TRYING TO INFORM THE COURT FROM  
15 A DATA POINT OF VIEW SO THE COURT HAS ADDITIONAL DATA  
16 AVAILABLE TO IT TO WAY OR JUDGE THE OTHER EVIDENCE  
17 THAT'S ALREADY BEEN PLACED. THAT'S WHY THE QUESTION I  
18 JUST POSED WAS: HAVE YOU LOOKED AT ANY DATA IN THE  
19 ACADEMIA AREA OF WOMEN DEGREES.

20 MR. SEFERIAN: YOUR HONOR THE COURT QUALIFIED  
21 HIM AS AN EXPERT IN ECONOMETRICS AND METHODOLOGIES  
22 THERE'S NOTHING IN HIS BACKGROUND OR IN THIS COURTS  
23 RULINGS OR THAT'S BEEN ESTABLISHED SO FAR TO SAY THAT  
24 HE'S AN EXPERT IN THE AVAILABLE POOL OF QUALIFIED WOMEN  
25 TO SERVE ON CORPORATE BOARDS.

26 SO THERE'S NO FOUNDATION FOR THIS LINE OF  
27 QUESTIONING.

28 MR. STICHT: THE FOUNDATION IS JUST THE DATA

1 YOUR HONOR.

2 THE COURT: IT SEEMS TO ME THAT HIS COLLECTION  
3 OF DATA AND HIS EXPLANATION OF DATA AND METHODOLOGY  
4 WOULD INCLUDE ANYTHING THAT COULD REASONABLY AFFECT THE  
5 EVALUATION OF AND THUS RELEVANCY OF ANY STUDY THAT'S  
6 BEING RELIED ON, SO I OVERRULE YOUR OBJECTION.

7 AND THIS IS WITHIN HIS SCOPE.

8 BY MR. STICHT:

9 Q. AND I WILL TRY TO KEEP IT AS LIMITED AS  
10 POSSIBLE YOUR HONOR.

11 SO WE LOOKED FOR EXAMPLE AT A BERKELEY STUDY  
12 TODAY, YES?

13 A. YES.

14 Q. AND BERKELEY HAVE YOU LOOKED AT THE STATISTICS  
15 OF -- OR DATA OF BERKELEYS ACADEMIA IN TERMS OF WOMEN  
16 PRESENCE?

17 A. SO IN TERMS OF DATA THAT I LOOKED AT ON THIS  
18 QUESTION, WAS ON WHAT IS THE CURRENT COMPOSITION OF SAY  
19 MBAS, CLASSES, IN SE THE U.S. NEWS TOP 10. SO IF WE  
20 THINK OF ONE POSSIBLE QUALIFICATION FOR A FUTURE BOARD  
21 MEMBER THAT MIGHT BE HAVING A PRESTIGIOUS MBA. IT TURNS  
22 OUT THAT THERE ARE IN THE TOP 10 AND THE THE WAY U.S.  
23 NEWS DOES IT THERE ARE ACTUALLY 11 SCHOOLS IN THE TOP  
24 10, BUT OF THOSE 11 SCHOOLS THERE ARE LITERALLY ONLY TWO  
25 THAT HAVE REACHED PARITY IN THEIR MBA CLASSES.  
26 UNIVERSITY OF PENNSYLVANIA IN THIS YEARS STARTING CLASS  
27 AT 52 PERCENT WOMEN AND NYU AT 51 PERCENT WOMEN ALL OF  
28 THE OTHER NINE SCHOOLS IN THE TOP 10 ARE IN THE

1 40 PERCENT RANGE INCLUDING STANFORD FOR EXAMPLE IT'S, I  
2 BELIEVE 44 PERCENT WOMEN WITH ONE EXCEPTION THAT'S THE  
3 HAAS SCHOOL AT BERKELEY WHICH HAS ONLY 37 PERCENT OF ITS  
4 CURRENT FIRST YEAR MBA STUDENTS ARE WOMEN.

5 NOW, OF COURSE, THIS MIGHT BE ONLY ONE ROOT TO  
6 AN VERY WENT WALL BOARD SEAT, BUT I THINK IT IS A BIT  
7 INDICATIVE. THIS IDEA THAT -- THAT THE POOL ITSELF  
8 WHILE THE TRAJECTORY IS SUCH THAT WE WE MAY BE GETTING  
9 TO THE POOL WHERE THE POOL ITSELF LOOKS TO HAVE PARITY,  
10 I THINK TO THE EXTENT WE'VE GOTTEN THERE IT'S BEEN QUITE  
11 RECENT. SO PEN BEING AT PARITY OR ABOVE THIS IS THE  
12 FIRST YEAR THAT WE WERE AT THE WHARTON SCHOOL AND SO YOU  
13 KNOW I THINK THAT'S PROBABLY RELEVANT IN THINKING ABOUT  
14 WHAT -- WHAT THE RELEVANT POOL MIGHT LOOK LIKE.

15 Q. JUST FOR CLARIFICATION, YOUR POINT IS THAT THE  
16 RELEVANT -- RELEVANT ASPECT IS THAT ACADEMIA IS JUST NOW  
17 REACHING THAT PARITY?

18 A. SO IT DEPENDS ON WHICH PART OF ACADEMIA YOU  
19 THINK IS RELEVANT. SO I SPOKE OF PRESTIGIOUS MBA  
20 PROGRAMS, WHICH IS ONE ROUTE TO A BOARD SEAT.

21 SO IF YOU TAKE MORE EXAMPLE APPLE, IMPORTANT  
22 COMPANY HEADQUARTERED IN CALIFORNIA, THREE OF THE BOARD  
23 MEMBERS HAVE HIGH PRESTIGIOUS MBAS, ONE OF THEM IS FROM  
24 WHARTON AND TWO OF THE OTHER ONES FROM TOP 15 LAW  
25 SCHOOLS.

26 SO THAT'S ONE ROUTE.

27 AND SO WE'RE JUST GETTING TO PARITY THERE.

28 IN THAT POOL. AND PRESUMABLY, YOU KNOW DESPITE

1 THE FACT THAT MY FRIENDS AT OUR WHARTON SCHOOL WOULD  
2 LOVE IN THEIR GRADUATES WOULD LOVE IF THEIR GRADUATES TO  
3 TAKE BOARD POSITIONS, PRESUMABLY THE MBA IS AN IMPORTANT  
4 QUALIFICATION BUT NOT A SUFFICIENT QUALIFICATION. NOW  
5 LAW SCHOOLS PARTICULARLY AT THE SORT OF TOP LEVELS HAVE  
6 MOSTLY BEEN AT PARITY FOR MUCH LONGER SO IF WE THINK  
7 THAT THE LEGAL ROUTE IS A CHANNEL, THAT ONE KIND OF  
8 REACHED PARITY EARLIER. BUT THEN THERE IS A THIRD ROUTE  
9 THAT IS OFTEN TAPPED EDUCATIONALLY AT LEAST FOR  
10 EVENTUALLY BOARD MEMBERS WHICH IS SCIENCE TECHNOLOGY AND  
11 HEALTH CARE PH.D.'S. AND THE EVIDENCE ON THOSE IN MOST  
12 OF THE FIELDS IN THOSE CATEGORIES IS WE'RE VERY FAR AWAY  
13 FROM PARITY. EVEN TODAY.

14 NOW, I DON'T WANT TO CLAIM AND I'M IT NOD --  
15 I'M NOT CLAIMING THAT I EVEN HAVE EXPERTISE IN THIS  
16 REGARD, I'M NOT SAYING THESE ARE THE ONLY ROUTES TO  
17 EVENTUAL BOARD MEMBERSHIP. BUT THEY ARE SOME COMMON  
18 ROUTES AND SO THEY MAY BE SUGGESTIVE THAT THE POOL IS  
19 ONLY GETTING TO THE POINT OF PARITY.

20 Q. DOES THAT RELATE IN ANY WAY TO THE AVERAGE ANAL  
21 OF A BOARD MEMBER?

22 MR. SEFERIAN: OBJECTION, CALLS FOR  
23 SPECULATION, LACKS FOUNDATION, BEYOND THE SCOPE OF THE  
24 WITNESSES EXPERTISE.

25 BY MR. STICHT:

26 Q. IF YOU KNOW?

27 THE COURT: I'M GOING TO OVERRULE IT. YOU MAY  
28 ANSWER YES OR NO.

1 DO YOU HAVE A YES OR NO ANSWER?

2 THE WITNESS: THE QUESTION WAS DOES IT RELATE  
3 IS THAT.

4 THE COURT: AND WHAT IS THAT YES OR NO ANSWER  
5 BASED ON.

6 YES. AND IT'S BASED ON DATA ON SAY THE AVERAGE  
7 AGE OF BOARD MEMBERS OR THE AVERAGE AGE AT APPOINTMENT  
8 TO BOARDS IN SE THE S&P 500 OR THE S&P 1500.  
9 BY MR. STICHT:

10 Q. ALL RIGHT.

11 AND WHAT IS THAT AVERAGE AGE?

12 A. FOR THE S&P 1500, I BELIEVE, AGE AT FIRST  
13 APPOINTMENT IS AN AVERAGE OF 58.

14 Q. SO YOU DON'T COME TO THIS CASE FOR THE FIRST  
15 TIME LOOKING AT GENDER DIVERSITY ON BOARDS. IS THAT  
16 RIGHT?

17 A. CORRECT. I LOOKED AT IT PRIOR.

18 Q. YOU'VE BEEN IMMERSE ED IN THE LITERATURE PRIOR  
19 TO YOUR INVOLVEMENT IN THIS CASE?

20 A. THAT'S CORRECT.

21 Q. AND YOU'VE EVEN WRITTEN ON THAT SUBJECT?

22 A. I READ THE LITERATURE REVIEW LAST YEAR IN THE  
23 CONTEXT OF THE BUSINESS CASE FOR DIVERSITY.

24 Q. AND TELL US A LITTLE BIT ABOUT THAT LITERATURE  
25 REVIEW?

26 A. IT WAS A LITERATURE REVIEW THAT I WROTE FOR THE  
27 AMERICAN ENTERPRISE INSTITUTE WHICH IS A WASHINGTON D.C.  
28 THINK TANK. AND WHAT I DID FOR THAT LITERATURE REVIEW

1 IS I AT THE TIME, THE NASDAQ STOCK EXCHANGE WAS LIKEWISE  
2 LOOKING INTO A SEX DIVERSITY RULE FOR NASDAQ LISTED  
3 FIRMS AND SO SIMILAR TO CALIFORNIA, HAD AN EVIDENCE BASE  
4 THAT USED TO JUSTIFY THIS REGULATION. AND SO I WENT  
5 THROUGH THE EVIDENCE THAT NASDAQ HAD PRESENTED AND THEN  
6 I DID A MORE REPRESENTATIVE REVIEW OF THE LITERATURE AND  
7 JUST WROTE IT UP AS AN ACADEMIC LITERATURE VIEW.

8 Q. WHAT DID YOU FIND?

9 A. I FOUND WHAT I STATED EARLIER. WHICH IS  
10 THERE'S A WIDE RANGE OF RESULTS IN THIS LITERATURE.  
11 THE -- THE -- IF YOU DON'T CONDITION ON QUALITY OF  
12 STUDY, YOU CANNOT SAY AS A GENERIC MATTER THAT THERE IS  
13 A POSITIVE OR A NEGATIVE EFFECT OF WOMEN ON BOARDS ON A  
14 WHOLE RANGE OF BUSINESS OUTCOMES. I'D SAY THAT'S A FAIR  
15 ASSESSMENT.

16 Q. WE HAVE AN EXHIBIT 350 WE WOULD LIKE YOU TO  
17 LOOK AT.

18 ARE YOU FAMILIAR WITH THIS EXHIBIT?

19 A. YES, I'VE SEEN IT BEFORE.

20 Q. THIS WAS A DEFENSE DEMONSTRATIVE EXHIBIT  
21 INTRODUCED THROUGH PROFESSOR GROUNDS.

22 AND IF YOU TAKE A LOOK AT PAGE ONE, THE CHART  
23 STARTS IN 2006 AND GOES THROUGH JUNE 30TH OF 18.

24 ON THE HORIZONTAL ACCESS.

25 AND ESSENTIALLY, AND I'M ROUNDING, BUT  
26 ESSENTIALLY AS WE ALL RECALL MS. GROUNDS TOLD US THAT  
27 SHE DID A STUDY OF THESE NUMBERS REFLECTED ON PAGE ONE  
28 AND DETERMINED THERE WAS APPROXIMATELY A .5 PERCENT

1 CHANGE PER YEAR IN THE GROWTH OF WOMEN ON BOARDS AND  
2 THEN RAN THAT NUMBER AS A LINEAR SORT OF FORMULA AND  
3 CAME UP WITH A EFFICIENCY OF ABOUT COMING TO PARITY IN  
4 ABOUT 60 YEARS.

5 WHICH IS ABOUT 20 YEARS MORE THAN WHAT EVEN THE  
6 LEGISLATIVE FINDINGS SHOWED.

7 NOW, AS AN EXPERT IN ECONOMICS, ECONOMETRICS AND  
8 METHODOLOGIES, ECONOMETRICS AND METHODOLOGIES, WE  
9 NOTICED THAT FROM 2012 UNTIL JUNE 30TH OF 2018 THERE'S  
10 ACTUALLY A 5 PERCENT INCREASE.

11 FROM 10.5 TO 15.5.

12 WHAT DOES THIS CHART ACTUALLY TELL US FROM YOUR  
13 OPINION?

14 A. SO I GUESS COULD YOU -- COULD YOU GIVE ME MORE  
15 DETAIL IN YOUR QUESTION.

16 Q. WELL, ONE OF MY QUESTIONS IS: IF WE WERE TO  
17 STRETCH THIS -- THIS HORIZONTAL ACCESS EVEN BACK BEFORE  
18 2006, WOULD WE EVEN RUN A RISK OF INCREASING THE NUMBER  
19 OF PARITY FROM 60 YEARS EVEN HIGHER BECAUSE OF JUST  
20 SELECTIVELY CHOOSING 2006 OR SOME PRIOR DATE?

21 A. SURE. SO IF YOU -- WE HAVE TO GUESS A LITTLE  
22 BIT, BUT WE CAN KNOWING THAT IT STARTS OUT UNDER  
23 10 PERCENT, AND GOING BACK AS FAR BACK AS YOU WANT TO  
24 GO, IT'S GOT TO HAVE A LESS STEEP TRAJECTORY THAN EVEN  
25 YOU'VE GOTTEN 2006 TO SAY 2015 OR SO. SO SURE, YOU  
26 COULD HAVE EXPANDED OUT EARLIER AND PROBABLY GENERATED  
27 IF YOU'RE JUST TAKING THIS LINEAR EXTRAPOLATION COULD  
28 HAVE GENERATED EVEN A BIGGER NUMBER IF YOU WANTED TO.

1 Q. SO SOMEBODY PRESENTS YOU PAGE ONE AND SAYS  
2 LOOKS IT'S GOING TO REACH 60 YEARS TO REACH PARITY AND  
3 YOU SAY YOU'RE BASING THAT CONCLUSION ON PAGE ONE,  
4 WHAT'S YOUR PROFESSIONAL OPINION OF THAT?

5 A. WELL AGAIN I THINK WE TOUCHED ON THIS WHEN WE  
6 WERE DISCUSSING EQUILAR AND THE GAO REPORT THERE'S SORT  
7 OF TWO QUESTIONS AND THEIR SOMEWHAT RELATED.  
8 STATISTICALLY MORE DATA TENDS TO BETTER, BUT MORE RECENT  
9 DATA TENDS TO BE MORE RELEVANT AND INFORMATIVE SO YOU  
10 HAVE THAT TRADE OFF. BUT YOU ALSO HAVE A MODELING  
11 DECISION HERE IN SOME SENSE, ONE COULD LOOK AT THIS AND  
12 SAY, THIS IS A LINEAR TREND UNTIL YOU GET TO 2015 AND  
13 THEN IT SHIFTS UP A LITTLE BIT.

14 OR YOU COULD LOOK AT THIS AND SAY YOU KNOW THIS  
15 MIGHT WELL JUST BE A COMPOUNDING TREND, RIDE, THE WAY  
16 EXPONENTIAL GROWTH WORKS IS THAT AT LOW LEVELS OF  
17 COMPOUNDING, THE INCREASE IS SLOW UNTIL YOU GET TO YOU  
18 KNOW A CERTAIN POINT AND THEN THE INCREASE SORT OF PICKS  
19 UP OR EVEN IF YOU DON'T WANT TO NECESSARILY DESCRIBE  
20 THIS AS AN EXPONENTIAL RELATIONSHIP, YOU MIGHT  
21 REASONABLY CALL THIS SORT OF NONE LINEAR. THIS TREND IS  
22 NONE LINEAR. SO ONCE IT'S NONLINEAR, YOU'VE GOT TO MAKE  
23 SOME MODELING DECISIONS WHETHER THOSE MODELING DECISIONS  
24 BE I'M GOING TO LOOK AT MORE RECENT TIME WHEN THE TREND  
25 IS PICKED UP OR IF YOU SAY I'M GOING TO LOOK AT THE  
26 LONGER SPAN BUT ALLOW SOME NONLINEARITIES IN THE TREND  
27 EITHER ONE OF THOSE ARE REASONABLE -- REASONABLE WAYS TO  
28 LOOK AT THIS DATA AND MAKE DIFFERENT CHOICES ABOUT IT.

1 Q. THIS CHART PURPORTS TO BE BASED UPON DATA FROM  
2 THE UNIVERSITY OF CALIFORNIA DAVIS AT 2006.

3 YOU'RE FAMILIAR WITH U.C. DAVIS STUDIES, RIGHT?

4 A. YES.

5 Q. SO 8.8 PERCENT WOMEN ON BOARDS IN 2006 RISING  
6 TO 15.5 PERCENT BY JUNE 30TH OF 2018.

7 DOES THAT ADD ANYTHING MORE TO WHAT -- TO THE  
8 TABLE THAT GIVES YOU MORE INFORMATION THAT YOU NEED TO  
9 TELL US WHAT THIS SAYS?

10 A. NO, I DON'T THINK SO. I THINK THE COMMENT IS  
11 STILL -- STILL APPLY.

12 Q. NOW IF I TOLD YOU THAT SENATE RESOLUTION 62,  
13 WHICH WAS AN URGING BY THE SENATE IN CALIFORNIA THAT  
14 CORPORATIONS ADD MORE WOMEN TO THEIR BOARDS TOOK EFFECT  
15 AROUND 2012?

16 A. UH-HUH.

17 Q. AND YOU WERE TO LOOK FROM 2012 TO 2018, HOW  
18 WOULD YOU IN TERMS OF YOUR EXPERTISE FACTOR IN SR 62?  
19 ON THIS GRAPH.

20 A. THERE ARE A COUPLE OF THINGS THAT ONE COULD DO,  
21 BUT IF YOU WANTED TO USE ALL THIS DATA, EVEN IF YOU  
22 WANTED TO MAINTAIN A LINEAR TREND, YOU COULD IN ADDITION  
23 TO THE LINEAR TREND VARIABLE IN THE REGRESSION, ONE  
24 COULD INCLUDE A VARIABLE FOR -- FOR THAT ACT. WHICH  
25 WOULD ALLOW SOME DEGREE OF NONLINEARITY, IF THE DATA  
26 SUGGESTED IT. SO THAT WOULD BE ANOTHER APPROACH.

27 OR WHAT ONE COULD DO IS ONE COULD TAKE THESE  
28 DATA AND TEST WHETHER -- WHETHER THAT ACT LED TO A TREND

1 BREAK. THERE ARE ALL SORTS OF TIME SERIES, WE DIDN'T  
2 TALK ABOUT THEM SPECIFICALLY, BUT THERE ARE ALL SORTS OF  
3 TIME SERIES METHODS WHERE ONE CAN ANALYZE TRENDS IN  
4 SOPHISTICATED WAYS.

5 Q. AND SHOULD ONE TAKE SR 62 INTO ACCOUNT NOW THAT  
6 YOU KNOW THAT EVENT OCCURRED OVER THIS TIMELINE?

7 A. MORE GENERALLY ANY RELEVANT CHANGES OUGHT TO BE  
8 MODELED WHEN DOING SOMETHING LIKE THIS.

9 Q. WOULD YOU PLEASE TURN TO PAGE TWO WHICH IS  
10 ESSENTIALLY A STRETCHING OF THE TIME OUT TO  
11 SEPTEMBER 30TH OF 2021 WITH A SOLID RED VERTICAL LINE  
12 BEFORE SB-826 AND AFTER SB-826.

13 A. PAGE TWO DOESN'T GO OUT TO 2021: AT LEAST THE  
14 PAGE TWO THAT I'VE GOT.

15 GREAT.

16 Q. HOPEFULLY BY LOOKING AT THAT PAGE TWO ON THAT  
17 LAST LINE OF QUESTIONING YOUR ANSWER WOULDN'T CHANGE?

18 A. NO, BECAUSE THE ONE IS JUST MERELY THE SAME  
19 INFORMATION.

20 Q. OKAY. SO RIGHT, THE TIMELINE NOW STRETCHES OUT  
21 TO SEPTEMBER 30TH OF 2021 OF THE?

22 A. CORRECT.

23 Q. NOW, WHEN YOU JUST LOOK AT THIS LIKE THIS, WHAT  
24 DOES IT SAY TO YOU?

25 A. THAT THERE APPEARS TO EITHER BE A TREND BREAK  
26 AT ANOTHER TREND BAKE AT 28 TEEN OR YOU KNOW, IT WOULD  
27 HAVE TO MODEL IT, BUT IF WE THOUGHT THAT THE PREVIOUS  
28 TREND WAS NONLINEAR THAT COULD BE A CONTINUATION OF THAT

1 NONLINEAR TREND IF IT WERE SAY AN EXPONENTIAL.

2 Q. PROFESSOR KLINK BASED UPON THIS CHART CAN WE  
3 CONCLUDE THAT THE 29.6 PERCENT THAT IS REPRESENTED ON  
4 SEPTEMBER 30TH OF 2021, THAT INCREASE FROM 15.5 PERCENT  
5 IS A DIRECT RESULT OF SB-826 WHICH WAS PASSED IN 2018?

6 MR. SEFERIAN: OBJECTION, LACKS FOUNDATION.  
7 CALLS FOR SPECULATION. BEYOND THE SCOPE OF EXPERTISE.

8 THE COURT: OVERRULED.

9 THE WITNESS: SO I THINK THERE ARE TWO  
10 COMPONENTS OF AN ANSWER TO THAT. ONE IS FIRST WE'D HAVE  
11 TO DO A LOT MORE SOPHISTICATED MODELING OF THE  
12 PRE-TREND.

13 BUT SECONDLY, GOING BACK TO OUR EARLIER  
14 DISCUSSIONS, THE PROBLEM HERE IS THAT WE DON'T HAVE THE  
15 COUNTERFACTUAL, RIGHT, SO WE WOULD LIKE TO COMPARE WHAT  
16 WOULD HAVE HAPPENED IN CALIFORNIA IN THE ALTERNATIVE  
17 WORLD SO ONE MIGHT LOOK AT, IF YOU THOUGHT THERE WERE  
18 OTHER STATES THAT WERE COMPARABLE TO CALIFORNIA, BUT  
19 DIDN'T HAVE -- HAVE THE SB-826, IN THE MOST MODERN  
20 METHODOLOGIES, WHAT PEOPLE OFTEN DO IS THEY'LL DO WHAT'S  
21 CALLED MATCHING ON THE TREND. SO FOR EXAMPLE, WHAT YOU  
22 COULD DO IS IF YOU'RE TAKING 2006 TO 2018 AS YOUR  
23 PRE-PERIOD, GO AND LOOK AT SAY ALL OF THE OTHER STATES  
24 AND FIND WHICH EVER STATE IN THE PRE-PERIOD HAS A TREND  
25 THAT MOST SIMILARLY MATCHES. AND THERE ARE STATISTICAL  
26 METHODS TO DETERMINE OR QUANTIFY WHAT THAT MEANS MOST  
27 SIMILARLY MATCHES. AND OF COURSE, AS I SAID BEFORE,  
28 THERE'S NO ASSUMPTION PRE-RESEARCH DESIGN. BUT THE

1 ASSUMPTION IN THOSE KINDS OF RESEARCH DESIGNS WOULD BE  
2 IF THE PRE-PERIOD WAS A GOOD MATCH, WE PRESUME THAT BUTT  
3 FOR THE INTERVENTION, HERE THE INTERVENTION WOULD BE  
4 SB-826, BUT FOR THE INTERVENTION THE SAME STATE FOR  
5 EXAMPLE, SHOULD BE A GOOD COUNTERFACTUAL IN THE POST  
6 PERIOD AS WELL.

7 AND SO THEN WHAT YOU WOULD DO IN THAT KIND OF  
8 STUDY IS YOU WOULD GO THROUGH ALL THE STATES FIGURE OUT  
9 WHICH ONE MATCHES THE BEST, YOU KNOW IDEALLY WITHIN SOME  
10 RANGE IN THE PRE-PERIOD THEN LOOK AT WHAT THAT STATES  
11 POST PERIOD LIKED LIKE AND COMPARE IT TO CALIFORNIA.

12 IF IT TURNS OUT THAT THAT STATE HAS THE SAME  
13 TRAJECTORY AS CALIFORNIA THEN YOU WOULD SAY, IT SEEMS  
14 UNLIKELY THAT SB-826 WAS CHANGING CALIFORNIA'S  
15 TRAJECTORY BECAUSE WE SEE IT IN THESE OTHER PLACES WERE  
16 THERE WAS NO ANALOGUE TO 826. IF INSTEAD IN THE  
17 COMPARISON STATES THEY DID NOT HAVE THAT UPWARD CHECK  
18 THEN YOU MIGHT FEEL MORE CONFIDENT OF ASSIGNING A CAUSAL  
19 EFFECT TO 826.

20 Q. WE MAY BE MISSING A CONTROL GROUP RIGHT OR A  
21 COUNTERFACTUAL?

22 A. COUNTERFACTUAL COMPARATIVE, SURE.

23 Q. ANYTHING ELSE YOU WOULD WANT TO ADJUST FOR IN  
24 THIS PARTICULAR TYPE OF PRESENTATION?

25 A. WELL LIKE I SAID, YOU KNOW, AND THOSE DESIGNS  
26 LIKE I SAID IN TERMS OF THE MATCHING ACTUALLY WHAT THE  
27 MOST SOPHISTICATED VERSIONS DO IS THEY DO DO MODELING,  
28 THOSE TIME SERE YESTERDAYS METHODS THAT I WAS TALKING

1 ABOUT IN THE PRE-PERIOD AND THEY ACTUALLY MATCH ON MODEL  
2 TRENDS SO IT'S ESSENTIALLY JUST A WAY OF DIFFERENT WAY  
3 TO ACCOUNT FOR ANY OTHER CHANGES THAT ARE GOING ON. SO  
4 ESSENTIALLY REGRESSION TECHNIQUE.

5 Q. WE'VE HAD CERTAINLY AN EXCELLENT LESSON FROM  
6 YOU PROFESSOR KLINK I DIDN'T DO, WE HAD SOME ACTUAL  
7 UNDERSTANDING OF HOW THAT WORKS IN THE STUDIES THAT WE  
8 WENT THROUGH TODAY.

9 COULD YOU JUST KIND OF DO A WRAP FOR US OF WHAT  
10 WE'VE BEEN THROUGH AND HOW WE MIGHT THE CONCLUSIONS WE  
11 MIGHT DRAW FROM WHAT YOU TOLD US?

12 A. YES.

13 SO I THINK GENERICALLY ON THE PRIMER, I WOULD  
14 SAY YOU KNOW, REMEMBER THAT CORRELATION ISN'T CAUSATION.

15 BUT THERE ARE THINGS THAT WE CAN DO THROUGH  
16 REGRESSION TECHNIQUES AND THROUGH NATURAL EXPERIMENTS  
17 AND MORE SOPHISTICATED DESIGNS THAT GETS US MORE  
18 CONFIDENCE IN DETERMINING WHETHER OR NOT A GIVEN  
19 CORRELATION IS CAUSATION AND WE'VE HAD THOSE TOOLS FOR  
20 AT LEAST 20, 25 YEARS NOW.

21 AND THEY ARE THE TOOLS THAT MODERN SOCIAL  
22 SCIENTISTS AND POLICY ANALYSTS FINANCIAL PEOPLE USE  
23 EVERY DAY AND IT'S A REASONABLY STRONG CONSENSUS ABOUT  
24 THE VALUE OF THESE TOOLS.

25 IF WE LOOK AT THE LITERATURE THAT'S -- THAT WAS  
26 USED DIRECTLY IN SUPPORT OF 826, THOSE TOOLS LARGELY  
27 SEEM ABSENT. IT IS NOT BECAUSE THEY'RE WHOLLY ABSENT  
28 FROM THE LITERATURE. THEY DO EXIST IN THE LITERATURE AS

1 I SUGGESTED, THEY JUST SEEM TO HAVE BEEN IGNORED, OR AT  
2 LEAST UNREMARKED ON IN THE ROUTE TO 826 AND THE ADVOCACY  
3 FOR 826. ON THE PARTICULAR RESULTS THAT WE THINK WE CAN  
4 DRAW FROM THE LITERATURE, IT'S AS I SUGGESTED EARLIER, A  
5 REPRESENTATIVE PICTURE OF THE LITERATURE -- BROAD  
6 PICTURE OF THE LITERATURE DRAWS NO DEFINITIVE  
7 CONCLUSIONS.

8 THE STUDIES YOU KNOW, MANY OF THE STUDIES LEAD  
9 TO AN INSIGNIFICANTLY STATISTICALLY INSIGNIFICANT  
10 RELATIONSHIP BETWEEN BOARD COMPOSITION AND VARIOUS  
11 OUTCOMES FOR FIRMS. OF THE STUDIES THAT DON'T FIND A  
12 ZERO OR STATISTICALLY ZERO EFFECT, THERE ARE LARGELY  
13 SPEAKING, AS MANY STUDIES THAT FIND POSITIVE EFFECTS AS  
14 FIND NEGATIVE EFFECTS. AND THAT'S EVEN BEFORE WE PUT  
15 ANY FILTERS ON QUALITY OF THE STUDIES AND THINGS LIKE  
16 THAT.

17 THAT'S WHAT I FOUND FOR SURE IN MY LITERATURE  
18 REVIEW THAT I DID PRIOR TO THIS CASE. AND, YOU KNOW, AS  
19 WE HAD THE DISCUSSION EARLIER, I SAID -- YOU ASKED ME,  
20 WELL, WHERE DO THINK TANKS FALL IN, ARE THEY ACADEMIC OR  
21 ARE THEY NOT. THEY SORT OF FILL THE SPACE IN BETWEEN.  
22 AND SO I WROTE THAT FOR AMERICAN ENTERPRISE INSTITUTE.  
23 I DID IT LARGELY HOW I DO AN ACADEMIC STUDY, BUT IT  
24 MIGHT BE REASONABLE TO SAY, WELL, IT'S FOR A THINK  
25 THANK, YOU KNOW. WE THINK OF IT AS BETTER THAN MCKINSEY  
26 BUT MAYBE NOT AS GREAT AS IF I PUBLISHED IT IN THE  
27 QUARTERLY JOURNAL OF ECONOMICS. THAT WOULD BE FAIR.  
28 BUT I'M NOT THE ONLY ONE THAT'S DONE AN ACADEMIC

1 LITERATURE REVIEW IN THIS AREA. THERE'S BEEN A HANDFUL  
2 OF THEM AND THEY UNIFORMLY HAVE COME TO THE SAME  
3 CONCLUSION.

4 PERHAPS MY FAVORITE ONE, JUST BECAUSE OF THE,  
5 YOU KNOW, THE SOURCE OF IT, THERE WAS A LITERATURE  
6 WRITTEN IN 2014 IN THE DELAWARE JOURNAL OF CORPORATE LAW  
7 BY DEBORAH RHODE. R H O.D. E AND AMANDA PACKEL, I THINK  
8 P.A. C K E L. AND THE REASON THIS IS SO NOTABLE IS  
9 DEBORAH RHODE, SHE'S DECEASED NOW, BUT WHEN SHE WAS  
10 ALIVE EARLY IN HER CAREER WHEN SHE WAS AT YALE AND LATER  
11 WHEN SHE WAS AT THE STANFORD LAW SCHOOL, SHE REALLY WAS  
12 A FOUNDING MOTHER OF FEMINIST LEGAL STUDIES AND THOSE  
13 SORTS OF THINGS AND SO -- BUT SHE WAS ALSO A GREAT  
14 ACADEMIC AND A VERY HONEST ACADEMIC. AND IN HER  
15 LITERATURE REVIEW IN 2014 SHE SAID, YOU KNOW, AS MUCH AS  
16 PEOPLE MIGHT WANT THERE TO BE A BUSINESS CASE FOR  
17 DIVERSITY, THE CURRENT LITERATURE DOES NOT SUPPORT IT.

18 THE CURRENT LITERATURE IS INCONCLUSIVE AT BEST  
19 IN TERMS OF FINDING RELATIONSHIPS BETWEEN BOARD  
20 COMPOSITION AND BUSINESS OUTCOMES.

21 AND SO YOU KNOW, THOSE ARE JUST TWO, MY  
22 LITERATURE REVIEW AND DEBORAH RHODE'S LITERATURE REVIEW,  
23 AND THERE ARE OTHERS THAT COME TO ROUGHLY THE SAME  
24 CONCLUSION. AND I THINK THAT'S PROBABLY THE MOST FAIR  
25 AND HONEST READING OF THIS LITERATURE.

26 Q. THAT WAS 2014?

27 A. THAT WAS 2014. MINE WAS 2020.

28 THERE WAS A 2021 LITERATURE REVIEW THAT FOCUSED

1 ONLY ON BEFORE AND AFTER TYPE STUDIES, BUT IT CAME TO  
2 LARGELY THE SAME CONCLUSION.

3 Q. AND SO RHODE'S WORK WAS AVAILABLE AT THE TIME  
4 OF SB-826?

5 A. OH, FOR SURE. AND DEBORAH RHODE IS A  
6 PROMINENT -- WAS A PROMINENT LEGAL SCHOLAR. SHE WAS IN  
7 CALIFORNIA DELAWARE JOURNAL OF CORPORATE LAW IS A WELL  
8 RESPECTED WELL KNOWN WELL CITED LAW REVIEW. SO SURE, IT  
9 WOULD HAVE BEEN WIDELY AVAILABLE.

10 MR. STICHT: YOUR HONOR MAY I HAVE TWO MINUTES  
11 WITH MY COLLEAGUES.

12 THE COURT: YES.

13 MR. STICHT: YOUR HONOR PLAINTIFFS HAVE NO  
14 FURTHER QUESTIONS FOR PROFESSOR KLINK, THANK YOU.

15 THE COURT: THANK YOU.

16 CONSIDERING THE TIME WE CAN PICK THIS UP FRESH  
17 TOMORROW. AND WE CAN START I HAVE KIND OF A LARGE  
18 CALENDAR AGAIN TOMORROW. AT 10:00.

19 IS THIS WORKING FOR EVERYBODY. THANK YOU 10:00  
20 A.M.

21 CROSS X BEGINS.

22 THANK YOU VERY MUCH. THE COURT IS IN RECESS.

23

24

25

26

27

28