

IN THE UNITED STATES DISTRICT COURT
FOR THE MIDDLE DISTRICT OF NORTH CAROLINA

COMMON CAUSE, et al.,)
)
Plaintiffs,)
vs.) Civil Action No.
) 1:16-CV-2016-WO-JEP
ROBERT A. RUCHO, in his)
official capacity as Chairman)
of the North Carolina Senate)
Redistricting Committee for the)
2016 Extra Session and)
Co-Chairman of the Joint Select)
Committee on Congressional)
Redistricting, et al.,)
)
Defendants.)
)
LEAGUE OF WOMEN VOTERS OF NORTH)
CAROLINA, et al.,)
)
Plaintiffs,)
vs.) Civil Action No.
) 1:16-CV-1164
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2016 Extra Session and)
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et al.,)
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Defendants.)
)

DEPOSITION OF SEAN TRENDE

9:33 A.M.

FRIDAY, MAY 5, 2017

SOUTHERN COALITION FOR SOCIAL JUSTICE
1415 WEST HIGHWAY 54, SUITE 101
DURHAM, NORTH CAROLINA

1 regression model to rate the competitiveness of
2 the races?

3 A. No. It is correct that we don't use a
4 regression model.

5 Q. Do you have a percentage cutoff for what you
6 consider to be a competitive race?

7 A. Generally we use 5 percent for a tossup and
8 10 percent for leans, 20 percent for likely. In
9 2016, we used a little bit of a wider range to
10 start out with just because we thought the
11 Clinton-Trump race was so unusual that you
12 couldn't -- you couldn't use traditional
13 metrics, and I think we were reasonably well
14 validated in that assumption.

15 Q. When you say 5 percent, do you mean 2.5 percent
16 above and below 50 percent or do you mean
17 5 percent above and 5 percent below?

18 A. That's ratified percent.

19 Q. So 47.5 to 52.5 would be a tossup?

20 A. Well, it rarely works out like that because
21 there's always undecideds. So I would just say
22 if you subtract one candidate's vote share from
23 the other, so it could be 47.5 and 42.5.

24 Q. Okay, so a 5 percent spread.

25 Would you say a 60/40 seat is not

- 1 competitive?
- 2 A. If the polls showed 60 percent -- if the polls
3 showed a spread of 60 percent, 40 percent, that
4 would mostly likely be rated as not competitive
5 unless there was something unusual about the
6 race. Like I think we might have had the Hawaii
7 Senate race in 2012 rated as likely because a
8 former Republican governor was the GOP nominee,
9 but -- so for the likely safe thing, it's a
10 little bit more -- a little less mechanistic,
11 but -- excuse me. If it were -- if it were
12 6 percent, it would generally not be a tossup,
13 almost certainly.
- 14 Q. And you say that you are in charge of rating the
15 competitiveness of House of Representative
16 races?
- 17 A. Yes.
- 18 Q. Do you do those averaging -- do you do the
19 averaging yourself?
- 20 A. There's almost never averages for House of
21 Representatives races.
- 22 Q. How do you rate the competitiveness of a House
23 of Representatives race?
- 24 A. So it's usually a holistic approach which I have
25 found works a lot better than various attempts

1 A. No.

2 Q. Do you keep a tally of which ones you get right
3 and which ones you get wrong?

4 A. No, but they should be in the public record.

5 Q. Would you say that you can use a partisan index
6 made up of former statewide election results to
7 get an idea of how a district will perform?

8 A. Yes.

9 Q. You say in Paragraph 26 -- if we can turn to
10 that. That's on Page 6 -- that you do not
11 testify in defense of voter identification laws.

12 Why is that?

13 A. Because I'd give too much unhelpful testimony.
14 I don't think voter identification laws have a
15 huge impact on turnout, but I think at the same
16 time there are people who don't -- who don't
17 have access to voter identification laws, and I
18 don't think the justification for them is
19 particularly strong, so I don't think I would be
20 much use as a testifying expert.

21 Q. Do you think the voter ID laws have the
22 potential to sway close elections?

23 MR. FARR: Objection.

24 THE WITNESS: I mean, I think they have
25 the potential to. I think the actual evidence

1 with the caveat that I have a couple hundred
2 articles on RealClearPolitics that may have
3 discussed partisan clustering in North Carolina,
4 no.

5 Q. You said that you don't have an idea of what the
6 state of the Voting Rights Act law at the moment
7 is, and so my question is: You haven't done any
8 analysis of how the VRA applies to
9 North Carolina, have you?

10 A. Can you ask that without the negative.

11 Q. Have you done any analysis of how the Voting
12 Rights Act applies to North Carolina?

13 A. No.

14 Q. And have you analyzed --

15 A. Well -- well, sorry. I was an expert in the
16 Covington case, which was a Shaw case, which --
17 and Dixon v Rucho, I think they're basically the
18 same case, one is state court, one is federal
19 court, although in those cases I was only rating
20 the competitiveness of districts, of state
21 legislative districts.

22 They were Voting Rights Act cases, and
23 since this testimony will follow me around for
24 the rest of my career, I just want to be precise
25 on that.

1 Q. Thank you. But in this case you haven't done
2 any analysis of whether compliance with the
3 Voting Rights Act may account for
4 North Carolina's efficiency gap, have you?

5 A. Whenever you ask me "in this case," I start to
6 get nervous about waiving any sort of privilege
7 that I might have.

8 I will say that outside of working in
9 the Covington case, what I've described
10 previously and the caveat about lots of articles
11 on RealClearPolitics, that I haven't done any
12 analysis of Voting Rights Act in North Carolina.

13 Q. And your report doesn't include any analysis of
14 the effect of the Voting Rights Act on the
15 efficiency gap in North Carolina, does it?

16 A. It's a lengthy report, so with the caveat that
17 as we work through it I might see something in
18 it that discusses the Voting Rights Act that I
19 can't remember.

20 As I sit here right now, I can't think
21 of any analysis of the Voting Rights Act in
22 North Carolina.

23 Q. And your report contains all of your opinions in
24 this case; is that right?

25 A. All of the formal opinions that I expect to

1 his -- not his article -- his expert report.

2 Q. In your opinion is partisan bias a more or less
3 valid measure of partisan symmetry than the
4 efficiency gap?

5 A. I don't know how you rank these sorts of things.
6 And they both have the problem that you're
7 engaging in counterfactual analysis. I guess
8 the efficiency gap has less counterfactual
9 analysis because you're only doing the uniform
10 swing calculations off of the sensitivity
11 testing.

12 You still have the problem that you're
13 engaging in counterfactuals off of the
14 imputations, but that strikes me as less
15 egregious than saying what happens if a state
16 swings from 60 percent to 50 percent Republican,
17 because those districts almost certainly would
18 not swing uniformly 10 points.

19 Q. And in a district-based system of elections, in
20 political science, what does responsiveness
21 mean?

22 A. Responsiveness is how the seats -- how the
23 change in seats respond to changes in vote
24 share; in other words, if the vote share swings
25 from 50 percent to 60 percent, is there an

1 Q. You said in your report sometimes you use the
2 simplified and sometimes you use the district-
3 by-district method. How did you choose which
4 one to use in each case?

5 A. Well, again, we have a peer-reviewed article, a
6 law review article by the someone bringing this
7 case and an expert report who said they're the
8 same thing, so ultimately I'm not sure that they
9 can be considered different.

10 That said, for the proportional
11 representation analysis, when I'm drawing the
12 charts, I am using the simplified version to
13 draw the charts, but most of my analysis and
14 most of my computations of individual efficiency
15 gaps are done using the full formula that
16 Dr. Jackman used in this report.

17 Q. Now, you're familiar with Professor Rodden and
18 Professor Chen's work on simulated districting
19 plans?

20 A. Yes.

21 Q. Have you ever tried to simulate districting
22 plans using their approach?

23 A. Yes.

24 Q. Have you produced any -- have you produced any
25 reports using their simulation technique?

1 in the vote share.

2 Q. And what is the relationship between partisan
3 bias and responsiveness?

4 A. I don't know off the top of my head.

5 Q. And what is the relationship between the
6 efficiency gap and responsiveness?

7 A. The efficiency gap, the relationship between --
8 the responsiveness of seats to votes is a linear
9 relationship. It's a 2-to-1 ratio if you're
10 using the classic -- or the simplified model.
11 And it is more complicated than that, but it's
12 still linear if you're using the full model.

13 Q. Okay. Let's go back to your report.

14 You say in your report that the
15 proposed -- I'm sorry. Let's go exactly to
16 where this is. Let's go to Paragraph 28. And
17 you say that Dr. Jackman's proposed efficiency
18 gap thresholds are not the same as Professor
19 Stephanopoulos and Dr. McGhee; is that right?

20 A. Correct.

21 Q. Would you agree that in 2016 the North Carolina
22 congressional plan exceeded both Dr. Jackman and
23 Professor Stephanopoulos and Dr. McGhee's
24 thresholds?

25 A. That's correct, but the point here -- there's

1 Q. Sure.

2 Now, in Paragraph 32, you say that
3 given that the efficiency gap for 2016
4 North Carolina plan was lower than the 2012
5 plan, this map would not be a gerrymander under
6 the standard used in the law review. Let's look
7 at that law review article. It's Jackman
8 Exhibit 4.

9 MR. FARR: I just want to state one of
10 the problems -- and, Denise, when we do the
11 deposition, I want this exhibit attached to the
12 deposition so you're going to have to find it
13 from the Jackman deposition. Include any
14 previously reviewed exhibits.

15 BY MS. GREENWOOD:

16 Q. So here's Jackman Exhibit 4. Now, you may not
17 need to look at the paper to know this. The
18 2012 plan for North Carolina exceeded Professor
19 Stephanopoulos and Dr. McGhee's two-seat
20 efficiency gap threshold for congressional
21 plans, didn't it?

22 A. I think that's probably right.

23 Do you have a calculator?

24 Q. Yes.

25 MR. FARR: Do we have to do that? I

1 know what the article says.

2 THE WITNESS: I think the answer is --
3 well, let me -- the answer is probably yes. If
4 I go home and calculate it and it's a half seat,
5 which I don't think it will be, I'll update my
6 testimony.

7 BY MS. GREENWOOD:

8 Q. And the 2016 Plan for North Carolina also
9 exceeded Stephanopoulos and McGhee's two-seat
10 threshold, didn't it?

11 A. I think it ends up being 2.47.

12 Q. Which would be more than two seats?

13 A. Which would be more than two, yes.

14 Where the difference between two seats
15 and percentages becomes relevant is if the
16 efficiency gap for North Carolina were .13. I
17 don't know if you guys -- if Stephanopoulos and
18 McGhee round up in their seats or if 2 is the
19 threshold, but that would fall -- that would be
20 an actionable efficiency gap. Assuming they
21 don't round up, the 1.3 would work out to an
22 actionable efficiency gap that would not meet
23 the two-seat threshold, and that's how it can be
24 consequential.

25 Q. And the reason that Professor Stephanopoulos and

1 A. That's the paragraph I'm reading.

2 Okay. That's my understanding of what
3 they're doing for a congressional plan. I think
4 Dr. Jackman calls these perturbations.

5 Q. And so if we look at Jackman Exhibit 2, which is
6 Professor Jackman's amended report. If we look
7 at Page 58 --

8 MR. FARR: Let me see this. Okay.

9 BY MS. GREENWOOD:

10 Q. That shows that if you move the vote 7.5 percent
11 in either direction from the center, it
12 wouldn't -- the efficiency gap would not go
13 above zero; isn't that right?

14 A. Well, but he's using a different measure of
15 efficiency gap. He's not using seats. He's not
16 using the full -- he's not using the simplified
17 model either. So I don't know what that would
18 work out to using the techniques that
19 Stephanopoulos and McGhee utilized.

20 Q. But just looking at this chart, Figure 21, if
21 you shifted the vote 7.5 percent in either
22 direction, the efficiency gap would not go above
23 zero; is that right?

24 MR. FARR: Objection. He just answered
25 the question.

1 THE WITNESS: Using -- using the
2 techniques that Dr. Jackman uses and metrics
3 that Dr. Jackman uses, which are different than
4 the metrics and techniques that Dr. McGhee and
5 Professor Stephanopoulos use, it does not go
6 above zero with a 7.5 percent shift.

7 BY MS. GREENWOOD:

8 Q. And let's turn in your report, which is Trende
9 Exhibit 3, to Page --

10 A. Hold on. Hold on. I've got to find it, please.

11 MR. FARR: What page?

12 MS. GREENWOOD: Page 80.

13 BY MS. GREENWOOD:

14 Q. If you look at the second chart on the right --

15 A. Correct.

16 Q. -- has North Carolina perturbations for 2016.

17 Based on your sensitivity testing, the
18 2016 plan's efficiency gap would not become
19 pro-Democratic, would not cross zero, if the
20 statewide vote shifted by up to 7.5 percentage
21 points in either direction; is that right?

22 A. Well, I don't run it 7.5 points up, but since
23 it's a linear relationship, putting that line
24 out, I doubt it, especially since my findings
25 look the same as what Dr. Jackman was finding.

1 apologize.

2 BY MS. GREENWOOD:

3 Q. There is no evidence of spatial clustering of
4 partisans in North Carolina, is there?

5 MR. FARR: Objection.

6 THE WITNESS: I told you when I looked
7 at North Carolina for my book, I thought it was
8 pretty clear that the Democratic coalition in
9 the state has receded into cities, college towns
10 and rural African American communities, and I
11 don't know -- I have not read Dr. Hood's or
12 Dr. Gimpel's report so I don't know what they
13 testified to.

14 BY MS. GREENWOOD:

15 Q. So is your opinion, then, based on your personal
16 view that there is partisan -- clustering of
17 partisans in North Carolina?

18 A. Yes.

19 Q. But you haven't done any quantitative analysis?

20 A. I don't think you need to do quantitative
21 analysis all the time to see these things, but,
22 no, I have not done quantitative analysis.

23 Q. And so how much of the 19 percent efficiency gap
24 in North Carolina do you think is due to this
25 partisan clustering that you believe there is?

1 BY MS. GREENWOOD:

2 Q. I'm sorry. This is the rebuttal report in
3 Wisconsin. You want the rebuttal --

4 A. Yes, please.

5 Q. My apologies. That's in the Jackman exhibits.
6 It's Jackman 3.

7 A. I was about to have a meltdown. Oh, my God,
8 I've been looking at the wrong stuff.

9 I'll just note for the record, there
10 appears to be writing on this that I did not do.

11 Q. It must have come from the Jackman deposition.

12 A. I just want to make sure it's understood that
13 that's not mine.

14 So on Page 22 -- and this is one
15 example -- in the middle:

16 "Third, Trende's examples conflate
17 the efficiency gap with the rest of
18 plaintiffs' three-part test, which
19 requires (1) discriminatory intent, (2)
20 a large and durable discriminatory
21 effect, and (3) a lack of neutral
22 justification before liability is found."

23 Q. So that's where he mentions the plaintiffs'
24 test.

25 Is there any place where Professor

1 Jackman conducts any analysis with respect to
2 intent?

3 A. No. And that was my answer to your question was
4 I think what you were getting at more with the
5 question was whether he conducted an independent
6 investigation into intent, and I don't believe
7 he ever does that.

8 Q. And he also didn't conduct an independent
9 investigation into the third prong, the
10 justification prong; is that right?

11 A. I don't know what he did in response to Gimpel
12 and Hood, who I understand concentrated their
13 reports more on Prong 3. I'm not aware of any
14 investigation he conducted on Prong 3.

15 Q. Okay. Let's go back to your report.

16 On Page 10 in Paragraph --

17 A. This is Exhibit 3, right.

18 Q. Trende 3, yes.

19 A. Trende 3, okay.

20 Q. On Page 10, Paragraph 34, you say that
21 Dr. Jackman utilizes Bayesian hierarchical
22 modeling. Can you explain to me what that is.

23 A. I haven't done Bayesian hierarchy modeling so I
24 wouldn't give an opinion on that.

25 Hierarchical modeling is when you're

1 Q. Can you identify anything in Dr. Jackman's
2 methodology that you would change with respect
3 to imputations?

4 A. Oh, no, I don't know. Like I said, some of this
5 is sort of black box stuff where you just kind
6 of put the stuff in you and you get the results,
7 and I'm guessing it's okay, but I think it
8 produces some results that are at least eyebrow
9 raising.

10 Q. Now, you calculated the efficiency gap from
11 Dr. Jackman's data set using the district-level
12 file that he provided; is that right?

13 A. I believe that's right.

14 Q. Can you explain to me how you calculated the
15 efficiency gap?

16 A. I believe I had a script in R that I provided to
17 you that did the work. I also did some checking
18 by hand to make sure the results were
19 reasonable, and in some instances I did the
20 calculations by hand rather than fighting with R
21 to try to get it to what I wanted it to do.

22 And the basic approach is what I
23 believe I described earlier, that you look to
24 see, if I'm going to do it, assuming a
25 Republican wins the district with the

1 how many false negatives you get just with a
2 different definition of false positive.

3 Q. And I see you're looking at Page 44 of
4 Dr. Jackman's report, which I'm also looking at.
5 Could you just explain to me this first chart.
6 What does "flagged" mean?

7 A. So this is using, I believe, 1972 to 2016. The
8 probability that a map is flagged is the --
9 simply the probability that the first plan
10 average -- the absolute first plan average
11 exceeds .12.

12 Q. And in this at .12, which is the standard that
13 would apply in North Carolina, about how many
14 plans would be flagged?

15 A. It looks like about a quarter, maybe a little
16 less.

17 Q. Right. And so about 75 percent of plans won't
18 be flagged; is that right?

19 A. That's right. There's error bars, but yeah.

20 Q. And I'm representing to you that there are 17
21 states with between 7 and 14 congressional
22 districts. You may know that off the top of
23 your head, but if there are 17, then that
24 suggests that only about 4 would be flagged each
25 redistricting cycle for a quarter.

1 A. Of those states with what we'll call a small
2 number of seats, yes.

3 Q. Now, if we look at the next panel, it says
4 sensitivity. Can you explain to me what that
5 is?

6 A. So the sensitivity, it's the probability that a
7 plan is flagged given that the remainder of plan
8 average is positive, so that the -- can we just
9 say the test is positive without explaining what
10 the test is?

11 Q. When you say the test is positive, you mean the
12 remainder of plan averages over .08?

13 A. Since we're talking about small districts, the
14 remainder of plan averages is in fact over .08
15 and the sign matches the initial test statistic.

16 It doesn't -- I don't think it matters
17 if you have a negative efficiency gap and the
18 remainder plan average is like 15 in the other
19 direction. I think that still counts as a
20 negative.

21 Q. It sounds like what you're using as "test" is
22 what Professor Jackman uses on Page 42 is
23 "actual."

24 A. It's the probability of the universe of plans
25 that are positive. It's the probability that a

1 for the courts and lawyers, not the
2 experts."

3 I really do believe that, but for
4 myself I would look at all of them.

5 Q. So as an elections analyst, you would say it's
6 important to look at all of them, but you're not
7 asking the Court to look at any particular one?

8 A. No. Like I said, whether you want a legal test
9 that flags one-in-four maps to me is a pure
10 legal question. I don't think political science
11 or elections analysis offers any insight on
12 that.

13 Q. And are there any changes that you would make to
14 Dr. Jackman's prognostic tests?

15 A. Honestly, I have not thought -- if I were doing
16 this, I haven't thought about how I would do it,
17 so I'm not suggesting any changes. I think,
18 again, these are what they are and the Court
19 should be aware of what these tests really mean.

20 But as I sit here today, I can't think
21 of anything I would do different because I
22 haven't given that any thought.

23 Q. But -- so you're not recommending any changes to
24 Dr. Jackman's conditional probability test?

25 A. No, no, but it's important. I haven't given it

1 any thought. I haven't been asked do that and
2 that's a big question.

3 Q. Well, were you asked in this case to review
4 Dr. Jackman's report and opinions?

5 A. Yes.

6 Q. And so you just didn't review this part of the
7 report. Is that what you're saying?

8 A. No, that's not at all what I'm saying.

9 What I'm saying is I didn't think of
10 how I would do it if I were being asked to
11 generate a test on this and that's a big
12 question.

13 Q. Okay. Dr. Jackman's efficiency gap analysis
14 includes 512 entries in his data set; is that
15 right?

16 A. I will accept your stipulation that there are
17 512 individual tests run. That sounds right.

18 Q. I mean, just for the record, you can go to
19 Dr. Jackman's report at Page 6, Point 6,
20 Performance of the efficiency gap in 512
21 state-level congressional elections.

22 A. So I'm assuming he's correct.

23 Q. And if we turn back to your report, beginning on
24 Page 29 in Part VI --

25 A. I'm sorry. I'm sorry. Okay.

1 Q. How many examples do you include in this
2 section?

3 A. Of the 120 or so actual maps that are tested,
4 about 20, I believe.

5 Q. So you didn't discuss all of the 512 entries in
6 Dr. Jackman's database?

7 A. No, because some of these you would have to
8 multiply times 5 because I was looking at maps,
9 and in particular, the first year of the map,
10 although I do discuss some other elections to
11 see how -- illustrate how this standard works,
12 but my main emphasis was on maps and there are
13 120 maps so it's about a sixth of all the maps.

14 Q. So you say roughly a sixth of all the plans?

15 A. Yes.

16 Q. And you'd agree that that's a subset of the
17 entries; is that right?

18 A. Yes.

19 Q. If you had looked at a different subset of the
20 entries, a different six, would it be possible
21 that you would reach different conclusions?

22 A. I suppose it would be possible, but I don't
23 know -- I don't know if you would conclude
24 whether it was the hallmark of the efficiency
25 gap -- or that the efficiency gap was really a

1 A. Correct.

2 Q. But you're not looking at Prongs 1 or 3?

3 A. That's all a sensitivity test looks at is
4 Prong 2.

5 Q. Right.

6 A. I think the Court needs to understand as it's
7 evaluating the sensitivity test is that it
8 doesn't take into account the possibility that
9 the sign can be in the wrong way.

10 Q. Is there a measure of electoral effects that you
11 prefer to the efficiency gap?

12 A. No. Like I said, I don't know that there is a
13 good definition of a gerrymander.

14 Q. Let's -- I'm sorry. You coauthored the 2014
15 Almanac of American Politics; is that right?

16 A. That's right.

17 Q. So I've got Page 1233 from the 2014 Almanac of
18 American Politics.

19 (WHEREUPON, Plaintiffs' Trende
20 Exhibit 13 was marked for identification.)

21 BY MS. GREENWOOD:

22 Q. So if you could just read the last two full
23 perhaps into the record, please.

24 MR. FARR: Can he read the whole thing
25 first?

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MS. GREENWOOD: Sure.

THE WITNESS: Okay.

"In July 2011, Republicans quickly released and passed a new plan that unraveled and reversed the Democrats' 2002 map, and then some. They painstakingly packed Democratic voters into just three of the state's 13 seats: an African American majority 1st District covering parts of rural northeastern counties and heavily black neighborhoods in Durham, an almost comically liberal 4th District tying via tentacles the academic haven of Chapel Hill to black neighborhoods in Raleigh and faraway Fayetteville, and an even more tightly packed African American majority 12th District knifing along the I-85 corridor from Charlotte to Winston-Salem and Greensboro.

"Republicans drew the other 10 seats at least 10 percentage points more Republican than the national average.

"Their handiwork endangered five of the state's seven Democrats. The map

1 double-bunked Chapel Hill Democrat David
2 Price and Raleigh Democrat Miller in the
3 4th District, but it also carved the
4 burgeoning progressive mountain mecca of
5 Asheville out of Democrat Heath Shuler's
6 western 11th District, and black
7 neighborhoods in Charlotte and
8 Fayetteville out of Democrat Larry
9 Kissell's southern tier 8th District.
10 "Republicans even purged Democrat
11 Mike McIntyre's Robeson County home base,
12 as well as black neighborhoods in
13 Wilmington, from his southeastern 7th
14 District. Republican freshman Renee
15 Ellmers, who had defeated Democrat Bob
16 Etheridge in the suburban Raleigh 2nd
17 District in 2010, received a much safer
18 seat."

19 BY MS. GREENWOOD:

20 Q. And you stand by this description?

21 A. I didn't write this description, but it sounds
22 like an accurate description.

23 The chapters in the Almanac, the
24 initial state summary are written by Michael
25 Barone. The congressional redistricting summary

1 drawn. So you can say that it's sensible even
2 though in the first year it wasn't actionable
3 and so forth.

4 Q. You just said that Dr. Jackman said in his
5 deposition. Have you reviewed a transcript of
6 Dr. Jackman's deposition in this case?

7 A. I've seen the rough.

8 Q. So when I asked you before what you had reviewed
9 to prepare for this deposition, that would
10 include Dr. Jackman's deposition; is that
11 correct?

12 A. No.

13 Q. Why did you review Dr. Jackman's deposition?

14 A. Because I was curious. When it came in, it got
15 sent to me. I read it, I thought it was
16 interesting, but I don't really consider that
17 part of my prep.

18 Q. Let's look -- is there anything else that you
19 looked at that relates to this case that you
20 don't consider part of your prep?

21 A. I've seen the rough of Dr. Chen's deposition,
22 but I think I only did a find and replace -- or
23 a search for my name in it.

24 I haven't seen any other depositions.

25 Q. So you haven't seen Dr. Hofeller's deposition,

1 when they get into a year that's a little better
2 than 2006 or 2008, which I think is entirely
3 possible given how things are going, you pop
4 neutral or even positive efficiency gaps because
5 Republicans start losing.

6 Each time -- and I think this is an
7 important point. You notice that everything
8 goes in a line, because, again, the efficiency
9 gap is a linear metric, and then you see these
10 jumps, and every time you see those jumps it's
11 because someone loses, and so that kind of tells
12 you what the -- where the losses occur.

13 Q. And if you look at Page 57 of Dr. Jackman's
14 report, in the last paragraph there, his
15 interpretation of the perturbations or
16 sensitivity testing is that the 2016 value of
17 the efficiency gap is not just large but quite
18 robust even to large changes in the 2016
19 outcome.

20 Would you agree with that?

21 A. If I were trying to write it using more neutral
22 language, I would probably say something like
23 given the range of efficiency gaps that has been
24 produced on record, North Carolina's efficiency
25 gap is large, which is kind of what he's saying

1 beforehand.

2 And then, yeah, it's robust to changes
3 in the 2016 outcome. However, there are values
4 there are within the normal range of national
5 vote shares that could produce neutral or even
6 Democratic-leaning efficiency gaps depending on
7 the national environment in the first year of
8 implementation. That's how I would answer it.

9 Q. But if you look at Dr. Jackman's chart on
10 Page 58, you would need a 9 percent swing in
11 favor of Democrats in order for the efficiency
12 gap to hit 0; is that right?

13 A. That's what my chart shows too, which was a big
14 relief. Yeah. And then if you swung at 10, if
15 you got down to a year like Democrats had in
16 1974 or a little better than they had in 2008
17 and 2006 you would get a Democratic-leaning
18 efficiency gap off of the same map.

19 Q. And you're saying what the Democrats got in 2006
20 or in 1974 nationally, not in North Carolina?

21 A. Right, if you did that sort of uniform national
22 swing.

23 Like I said, I think part of the
24 problem with this entire line of analysis here
25 is when you do a uniform swing, you're creating

1 a hypothetical that wouldn't exist because the
2 districts that are going to swing the most are
3 probably going to be the swing districts that
4 have the most likely chance of flipping because
5 that's where you're going to be able to entice
6 better candidates to run, but given this
7 assumption of uniform swing, this is how it
8 plays out.

9 Q. So it would take close to the best Democratic
10 year of the last half century for the efficiency
11 gap in North Carolina to flip signs?

12 A. So there's this kind of time dilation effect
13 that goes on when we're talking about elections.
14 You say the last half century and it sounds like
15 this huge number, but the last half century is
16 25 elections because you only get elections
17 every two years. It's actually a big problem in
18 doing election analysis because you lose track
19 of that. That's like saying if we were doing
20 NFL football games, you're talking about
21 something that hasn't happened in the last two
22 season. Well, all of a sudden that's not so
23 unlikely.

24 So it is true that it would be the best
25 year in the last half century, but it would also

1 be the best result of the last 25 elections

2 which all of a sudden isn't that extreme.

3 Q. Okay. I wanted to look at one of the files you
4 produced. It was called mm.csv.

5 (WHEREUPON, Plaintiffs' Trende
6 Exhibit 14 was marked for identification.)

7 BY MS. GREENWOOD:

8 Q. I think this file might be related to your
9 perturbations, but I'm not sure. So what is
10 this file related to?

11 A. I don't know.

12 Q. Do you think it's related to your perturbations?

13 A. I think this was an early attempt of my
14 perturbations, but it didn't work.

15 Q. Why did it not work?

16 A. I believe -- I don't know. But I think from my
17 R code, those charts are generated directly in
18 R. Like R does the calculations, puts them in a
19 chart and it prints. It's not generated from
20 any external file. I just gave you my file.

21 Q. I realize that.

22 A. Going back through it, I think you actually have
23 charts from homework that I saved into the wrong
24 file.

25 Q. Oh, really. We can give you a mark, then.

1 efficiency gap, but that would be 14 fewer
2 Republican seats than currently; is that right?

3 A. Yeah, but there would be very -- it would be an
4 extremely well-entrenched majority, which to the
5 extent that that is a concern of the courts, and
6 courts have expressed concern about entrenchment
7 being a test, that the efficiency gap does
8 nothing to address that concern.

9 Q. Let's turn the page together, so Page 84,
10 Part X. You discuss Dr. Jackman's analysis of
11 how party control affects the efficiency gap.

12 A. Correct.

13 Q. You don't identify any errors with Professor
14 Jackman's methodology, do you?

15 A. No. At this point I got a little confused as
16 to -- this was one of those times I wished I
17 could pick up the phone and ask him exactly what
18 he's doing, but no.

19 Q. Do you agree that party control can be a
20 statistically significant driver of the
21 efficiency gap without being its only cause?

22 A. There can be multiple causes. My concern is
23 that you have a year -- you have a decade 1990
24 where the efficiency gap swings 7.5 points
25 towards Republicans and yet Republicans

1 A. I'm sorry. Are we referring to the table at the
2 top or Point Heading 12?

3 Q. Point Heading 12.

4 MR. FARR: Take your time.

5 THE WITNESS: I think my testimony
6 was -- my testimony was I haven't had a chance
7 to go back and look at this, but as I sit here I
8 can't identify anything.

9 I did think at one point perhaps you
10 said the eight panels or the eight different
11 tests, which one I thought was most important.
12 There's actually only six because specificity
13 and false positive rates are the same chart and
14 precision and false discovery rates are for all
15 intents and purposes the same chart, but that's
16 pedantic.

17 BY MS. GREENWOOD:

18 Q. But if you look on Page 47, that's where
19 Professor Jackman looks at how initial
20 efficiency gaps are related to the average
21 efficiency gaps over the remainder of their life
22 times. And you don't identify any problems with
23 the method that Professor Jackman used here, do
24 you?

25 A. I don't think I've said that any of his

1 conclusions are wrong.

2 Q. And then in Section 13, Page 54 is where
3 Dr. Jackman looks at sensitivity to
4 perturbations in election outcomes for
5 North Carolina. And you don't identify any
6 problem to his methodology there, do you?

7 A. Is this 13 or 13.1?

8 Q. Do you identify any problems in any of
9 Section 13 with his methods?

10 A. Well, so I do say in my report that, you know,
11 we are exploring counterfactuals and in the real
12 world these things wouldn't swing uniformly, for
13 the same critique that partisan bias holds, so
14 it would probably require smaller swings than
15 described. I don't know that it makes sense for
16 each election to swing things 10 points. I'm
17 reasonably confident that although Republicans
18 were at 54 percent in 2014, I don't think
19 they'll get 64 percent of the two-party vote, so
20 swinging it up 10 points, but it's an
21 illustration of what would happen in that
22 circumstance. I suppose it could be a useful
23 thought experiment.

24 I guess I have big-picture concerns
25 about the efficiency gap in general, so to the

1 BY MS. GREENWOOD:

2 Q. And you agree that Dr. Jackman can write R
3 packages better than you, don't you?

4 A. I certainly agree with that.

5 Q. And you agree that Dr. Jackman has a greater
6 expertise in statistics than you do?

7 A. I don't think I can dispute that.

8 Q. Would you agree that the definition of partisan
9 gerrymandering as being the drawing of districts
10 to gain political advantage?

11 MR. FARR: Objection to the form.

12 You can answer.

13 THE WITNESS: I think that would
14 certainly be part of it, but whenever parties --
15 that's part of the problem. I mean, if we're
16 getting outside of this and, like, getting to
17 the plaintiffs' test, that's part of the problem
18 with the intent standard. It's always going to
19 be there when a party is drawing. I don't think
20 any party has ever drawn a map in history
21 without an eye to its own advantage.

22 So quite frankly, I think that first
23 prong has zero limiting effect except possibly
24 to limit out when the sign just doesn't match,
25 so like Democrats pop a negative gerrymander,

1 but -- so, no, I think that's far too broad.

2 BY MS. GREENWOOD:

3 Q. And if you think that partisans always draw
4 plans to their advantage, you don't dispute,
5 then, that the current North Carolina
6 congressional map drawn by the
7 Republican-controlled legislature was drawn with
8 some partisan intent; is that right?

9 A. I haven't done any type of inquiry. Maybe they
10 are the one shining example of partisan
11 magnificence. I would be surprised if that
12 ended up being true.

13 Q. Now, you mention Dr. Chen right at the end of
14 your report. You're not actually offering any
15 criticisms of Dr. Chen's work with respect to
16 North Carolina, are you?

17 A. I don't know that that's right.

18 Q. Grab your report. Page 84.

19 A. Yeah. I just -- I mean, I think he's using a
20 different -- I think he -- we didn't see his
21 Java in Wisconsin, but I think he's using a
22 different version, slightly different version
23 here.

24 But as a general matter, Dr. Chen's
25 simulations didn't perform that well in