No. 20-16301

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# In the United States Court of Appeals
# for the Ninth Circuit

_____

BRIAN MECINAS; CAROLYN VASKO *EX REL* C.V.; DNC SERVICES
CORPORATION D/B/A DEMOCRATIC NATIONAL COMMITTEE; DSCC;
PRIORITIES USA; and PATTI SERRANO,
*Plaintiffs - Appellants*,

v.

KATIE HOBBS, in her official capacity as Secretary of State of Arizona,
*Defendant - Appellee*.

_____

On Appeal from the United States District Court
for the District of Arizona
Case No. CV-19-05547-DJH

_____

## PLAINTIFFS-APPELLANTS' REPLY IN SUPPORT OF EMERGENCY
## MOTION UNDER CIRCUIT RULE 27-3 FOR INJUNCTION PENDING
## APPEAL

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## I.    INTRODUCTION

The Secretary rehashes the same errors made by the district court, neglecting binding precedent to argue Plaintiffs lack standing and that this case is nonjusticiable. She also revives an oft-rejected argument that, as the State's chief elections official, she is powerless to remedy injuries that flow from an Arizona election law. The Secretary's arguments are without merit. If Plaintiffs' motion is not granted, Arizona will persist in putting its thumb on the scale in favor of Plaintiffs' political opponents on the vast majority of ballots this November. Every court to have reached the merits in an analogous challenge has found that the Constitution does not permit such a result. Granting Plaintiffs' motion will not only be consistent with this extensive body of case law, it will avoid irreparable harm, serve the public interest, and is strongly favored by the equities. The Court should grant Plaintiffs' motion.

## II.    ARGUMENT

**A.    Plaintiffs are highly likely to succeed on the merits of this appeal.**

**1.    Plaintiffs have standing.**

Plaintiffs established three independent bases for standing—competitive, direct, and associational. The Secretary's arguments to the contrary rest on the same misapprehensions that rendered the district court's conclusion erroneous.

Competitive Standing. The Secretary asserts that competitive standing only exists when a candidate challenges the inclusion of another on the ballot—but that cramped view finds no support in case law, not in this Circuit or any other.

The Secretary's argument cannot be reconciled with *Owen v. Mulligan*, 640 F.2d 1130 (9th Cir. 1981), which held that both "[the candidate] *and* the Republic[an] Committee members" had standing based on their "continuing interest in preventing" their opponent from "gaining an unfair advantage in the election process," *id.* at 1133 (emphasis added); *see also Drake v. Obama*, 664 F.3d 774, 783 (9th Cir. 2011) ("In *Owen v. Mulligan*, we held that the 'potential loss of an election' was an injury-in-fact sufficient to give a local candidate *and Republican party officials* standing.") (emphasis added); *Crawford v. Marion Cty. Election Bd.*, 472 F.3d 949, 951 (7th Cir. 2007) (citing *Owen* in support of holding that "the Democratic Party has standing"), *aff'd*, 553 U.S. 181 (2008); *Tex. Democratic Party v. Benkiser*, 459 F.3d 582, 586-87 n.4 (5th Cir. 2006) (citing *Owen*'s holding on "Republican party official standing" in support of holding that TDP had "direct standing" based on "harm to its election prospects"). Every circuit to consider this question agrees that political parties and their candidates alike have competitive standing to challenge election laws, including ballot order statutes. *See* Pls.-Appellants' Emergency Mot. for Prelim. Inj., Doc. 2-1 at 6-7 ("Mot.") (listing cases).[1] Since Plaintiffs filed their motion with this Court, yet another federal court rejected the conclusion the Secretary urges here, finding the Democratic Party had standing to challenge a ballot order statute because it "will harm the electoral

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[1] Neither *Jacobson v. Fla. Sec'y of State*, 957 F.3d 1193 (11th Cir. 2020), nor *Miller v. Hughes*, No. 1:19-CV-1071-LY (W.D. Tex. July 10, 2020), reached the question of competitive standing. *See* Mot. at 7.

prospects" of Democratic candidates "running in the November election." *Nelson v. Warner*, No. CV 3:19-0898, 2020 WL 4004224, at \*4 (S.D. W. Va. July 15, 2020).

Contrary to the Secretary's contention, *Townley v. Miller* did not cast aside nearly forty years of precedent in a single sentence. *Townley* merely states that the inclusion of a candidate on the ballot is one instance where there may be competitive standing, not that that is the *only* instance. *See* 722 F.3d 1128, 1135 (9th Cir. 2013). In fact, that single sentence from *Townley* is plucked from *Drake*, 664 F.3d at 782, in which the Ninth Circuit expressly recognized that its doctrine of "competitive standing" is anchored in *Owen*, which had nothing to do with the inclusion of another candidate on the ballot. *Id.* at 783. Simply put, "the direct injury that results from [Arizona's] illegal structuring of a competitive election is inflicted not only on candidates who are at a disadvantage, but also on the political parties who seek to elect those candidates to office," *Pavek v. Simon*, No. 19-CV-3000 (SRN/DTS), 2020 WL 3183249, at \*13 (D. Minn. June 15, 2020) (citing *Owen*, 640 F.2d at 1133).

Direct Organizational Standing. The Secretary's suggestion that Plaintiffs offered little more than "general allegations" in support of diversion of resources—an independent basis for Plaintiffs' standing—is plain false; like the district court, the Secretary wholly ignores the DSCC and DNC's declarations in support of their preliminary injunction motion, which should have been considered in ruling on the motion to dismiss. *See* Mot. at 10; *see also* Hr'g Tr. (Ex. F) 16:11-16; ECF No. 47 at 2 n.1 ("The parties have agreed that the Court may rely on and consider all documents filed on the docket in support of and in opposition to Plaintiffs' motion for a preliminary injunction, including the affidavits filed [by

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DSCC and DNC]."); ECF No. 46 at 2 (explaining "the Secretary reserves the right to use or refer to any exhibits or filings from either party" at the preliminary injunction hearing). "The Supreme Court has made clear that injuries of the sort that Plaintiffs allege"—and substantiated with sworn declarations—"are concrete and particular for purposes of Article III." *Nat'l Council of La Raza v. Cegavske*, 800 F.3d 1032, 1040 (9th Cir. 2015) (citing *Havens Realty Corp. v. Coleman*, 455 U.S. 363, 379 (1982)); *see also Pavek,* 2020 WL 3183249, at \*10-11 (finding injury based on diversion of resources where DSCC alleged ballot order statute "requires them to divert resources into Minnesota that would normally be spent in other states around the country"). The Secretary does not dispute, meanwhile, that the district court applied the wrong standard in determining whether Plaintiffs had met their burden to prove standing on this ground. *See* Mot. at 10-12.

Associational Standing. Although conceding that Democratic candidates would have standing, the Secretary fails to rebut Plaintiffs' arguments that DNC and DSCC constitute the Democratic Party and thus may sue on behalf of their affiliated candidates. *See* Mot. at 12-15; *see also Nelson*, 2020 WL 4004224, at \*6 (holding Democratic Party had standing to challenge ballot order statute based on harm to candidate). Further, the Secretary's argument that Plaintiffs failed to identify an injured member is wrong on both the facts and the law. *See* Mot. at 14 (identifying Democratic candidate for Senate as injured member); *see also Nat'l Council of La Raza,* 800 F.3d at 1041 (holding organization need not identify members where injury is clear and their specific identity is not relevant to defendant's ability to understand or address injury).

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**2.      This case presents a justiciable question.**

The Secretary dangerously overreads *Rucho v. Common Cause*, 139 S. Ct. 2484 (2019), which held that, where the Court had tried (and failed) for nearly half a century to formulate a way to adjudicate partisan gerrymandering cases, it could identify no judicially manageable standard. That *Rucho* was applied in the climate change case of *Juliana v. United States*, 947 F. 3d 1159, 1173 (9th Cir. 2020), is logical: courts have likewise been unable to formulate a standard for evaluating whether the government has done enough to ensure a livable climate. *Id.*

But courts have been successfully adjudicating ballot order challenges for decades, including in the post-*Rucho* era. Mot. at 16; *see also Nelson*, 2020 WL 4004224, at *8 (holding *Rucho* does not render challenge to ballot order statute nonjusticiable as "courts have competently adjudicated ballot order cases using equal protection principles for decades"). The Supreme Court has only found a handful of issues nonjusticiable in its 225-year existence, and research has not revealed a single instance in which it suddenly declared an entire category of litigation non-justiciable without expressly saying so. *See generally* John Harrison, *The Political Question Doctrines*, 67 Am. U. L. Rev. 457 (2017). There is no basis for finding it did so here.

**3.      The Secretary is the appropriate defendant to afford relief.**

The Secretary also dusts off two arguments that even the district court did not find persuasive: she claims she is not the proper defendant and that the Eleventh Amendment bars this lawsuit, but neither argument has merit.

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First, the Secretary's refrain that she is not the proper defendant in a challenge to an Arizona election law has been repeatedly rejected, including by this Court. *E.g.*, *Ariz. Libertarian Party, Inc. v. Bayless*, 351 F.3d 1277, 1280-81 (9th Cir. 2003) (affirming holding that Secretary's broad responsibility to oversee elections administration made her correct defendant in facial challenge to Arizona election law); Order, *Democratic Nat'l Com. v. Reagan*, CV-16-01065-DLR, ECF No. 267 at 6 (Mar. 3, 2017) (rejecting identical argument made here and holding that Secretary, not individual counties, was appropriate defendant); *Ariz. Democratic Party v. Reagan*, No. CV-16-03618-PHX-SPL, 2016 WL 6523427, at *1, *6 (D. Ariz. Nov. 3, 2016) (same). Although the Secretary asserts that counties print the ballots, she ignores that the *design* of the ballots is prescribed by the Ballot Order Statute, A.R.S. § 16-502, which the Secretary has a duty to implement and enforce in her capacity as Arizona's chief elections officer. *See* A.R.S. §§ 16-142(A), 16-452. There is no credible reason to believe that the supervisors would break rank should the Secretary direct them to order ballots in another way pursuant to a court order. *See id.*; *see also* Fed. R. Civ. P. 65(d)(2)(c) (binding to an injunction all "persons who are in active concert or participation" with defendant).

Second, Plaintiffs' suit against the Secretary in her official capacity for prospective relief fits perfectly within *Ex Parte Young*'s exception to sovereign immunity. *See Coal. to Defend Affirmative Action v. Brown*, 674 F.3d 1128, 1134 (9th Cir. 2012). Her argument that the counties are the proper defendants "reflects both a misconception of [her] role in overseeing and administering elections and an overly mechanical interpretation of Plaintiffs' requested relief." *DNC*, ECF No. 267

at 6. Because she oversees ballot preparation, and has a duty to implement the Ballot Order Statute in performing that duty, the Eleventh Amendment does not bar this claim against her. *See* A.R.S. § 16-452.

### 4.     The Ballot Order Statute violates the Constitution.

This case presents two simple questions: (1) do first-listed candidates obtain an advantage merely as the result of being listed first, and (2) does Arizona arbitrarily award that advantage to one similarly situated party over another? The answer to both is yes, and the Statute is unconstitutional.

The Secretary's attempt to cast doubt on the impact of ballot order in Arizona elections not only defies the evidence in this case but also the Arizona Supreme Court, who held decades ago that ballot order impacts Arizona's elections and ordered name rotation in the state's primary elections. *See Kautenberger v. Jackson*, 85 Ariz. 128, 131 (1958); A.R.S. § 16-464 (requiring rotation on primary ballots); A.R.S. § 16-502(H) (requiring rotation in general elections among candidates from the same party). The Secretary never explains why constitutional principles can simultaneously require Arizona to rotate names on primary ballots but allow it to cement ballot order's advantage in general elections.

As for her assertions that the evidence in this case is fairly disputed, it is simply not credible. The Secretary builds this argument on minor purported coding errors her proffered expert, Sean Trende, identified in the work of Dr. Jonathan Rodden, Plaintiffs' expert who analyzed the magnitude of primacy effects in Arizona. Doc. 7-1 at 4-5. Dr. Rodden is a Stanford professor of political science whose analysis of the impacts of election laws—including ballot order specifically—

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have been previously credited by federal courts.[2] Mr. Trende is a Ph.D. student who received his Masters in applied statistics just months before he testified, has never written a peer reviewed article, admitted that he is not an expert on ballot order effect, and has been discredited by almost every court in which he has testified (the others have largely ignored him). Ex. G 213: 21-25; 214:1-7, 12-14; 215:3-7.[3]

The Secretary's critiques of Plaintiffs' expert Dr. Krosnick, a professor at Stanford who has made a career of studying ballot order effects, Ex. G 152:21-23, are similarly baseless. As Dr. Krosnick testified, the ballot order effect has been observed in elections in every jurisdiction where it has been studied over the last 70 years except Afghanistan. Ex. G 156:13-158:14; Doc. 2-3 at 23-25. The scientific consensus is that first-listed candidates obtain an electoral advantage, often by several points. ECF No. 15-2 at 41; Ex. G 185:21-25.[4]

The question then becomes whether Arizona apportions the ballot order advantage constitutionally. Parties agree that the Court must apply *Anderson-Burdick*. *See* Doc. 7-1 at 16. The Secretary repeatedly claims that Arizona's Ballot Order Statute is "neutral," *id.* at 3, 17, but every court to have considered an analogous challenge has held that the systemic favoritism of one party over another other *is not neutral*—it is partisan discrimination, in violation of equal protection

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[2] *Democratic Nat'l Comm. v. Hobbs*, 948 F.3d 989 (9th Cir. 2020) (en banc) (relying heavily on Dr. Rodden's testimony in challenge to Arizona election law); *see also Jacobson*, 411 F. Supp. 3d at 1273.

[3] Mr. Trende admitted if the district court were to rely upon his regression analysis, it would be the very first to do so. Ex. G 235:19-22.

[4] Mr. Trende conceded that Dr. Krosnick's review of the literature regarding primacy effects was "largely accurate." Sec'y Ex. 3 at 0077.

guarantees. Mot. at 18 (citing cases); *Sangmeister v. Woodard*, 565 F.2d 460, 468 (7th Cir. 1977) (noting that any procedure that "invariably awards the first position on the ballot to the County Clerk's party, the incumbent's party, or the "majority" party" is not "neutral in character"). Unless enjoined, the Statute will mandate that 82 percent of Arizona's voters will be given ballots that list Republican candidates first in each race, giving the Republican Party a significant advantage in the coming general election. To justify this head start for one major party over the other, the Secretary only offers an interest in "logical, efficient, and manageable rules," Doc. 7-1 at 17, but any number of alternative schemes could fulfill these goals without the current system's favoritism. *See Soltysik v. Padilla*, 910 F.3d 438, 448 (9th Cir. 2018) (where burden is more than de minimis, *Anderson-Burdick* requires "an assessment of whether alternative methods would advance the proffered governmental interests."); *see also* Mot. at 19.

**B.     Plaintiffs will be irreparably harmed absent an injunction.**

The Secretary's fundamental misunderstanding of Plaintiffs' claim is never more on display than when she claims that Plaintiffs will experience no imminent irreparable harm because, even if she were to implement a lottery system, some candidate would be disadvantaged by not being listed first. Doc. 7-1 at 19. Plaintiffs have never claimed that the Secretary must conjure a ballot design free of position bias. But here, Plaintiffs are deprived of their right to a ballot design that gives them the same opportunity as similarly situated candidates to be listed first. *See, e.g.*, *Mann v. Powell*, 314 F. Supp. 677, 679 (N.D. Ill. 1969). "It is well established that the deprivation of constitutional rights unquestionably constitutes irreparable

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injury." *Melendres v. Arpaio*, 695 F.3d 990, 1002 (9th Cir. 2012) (citation omitted).

Rotation of all candidates (a remedy easily implemented with Arizona's existing

system) would diffuse that effect, *see Jacobson*, 411 F. Supp. 3d at 1284 (noting

"rotational ballot order schemes satisfy the requirements of the First and Fourteenth

Amendment by equalizing the burden on voting rights"), while a lottery scheme

would randomize it, *see id.* (lottery "alleviate[s] the burden on First and Fourteenth

Amendment rights by cleansing the partisan taint from the process"). [5]

## C.     The balance of the equities and public interest support an injunction.

The Secretary's argument on the equities once again rests on her mistaken

assertion that the Ballot Order Statute places no burden on Plaintiffs, and fails for

the same reasons discussed above. Her invocation of the *Purcell* principle, moreover,

is a poor fit here. The Secretary does not dispute that the state already uses a fair

ballot ordering system in other contexts; implementing that very same system here

would require little effort and involve none of the concerns which animate *Purcell*.

## III.   CONCLUSION

The constitutional harm that will befall Plaintiffs absent an emergency

injunction will be severe and irreparable.  Plaintiffs respectfully request that the

Court grant their motion.

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[5] The Secretary contends Plaintiffs requested one specific form of relief—rotation of major party candidates—but the record repeatedly refutes that. *See* Mot. at iv n.1.

RESPECTFULLY SUBMITTED this 21st day of July, 2020.

_/s Sarah Gonski_

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## CERTIFICATE OF SERVICE

I hereby certify that I electronically filed the attached document with the Clerk of the Court for the United States Court of Appeals for the Ninth Circuit by using the appellate CM/ECF system on July 21, 2020. I certify that all participants in the case are registered CM/ECF users and that service will be accomplished by the appellate CM/ECF system.

*s/ Sarah R. Gonski*

# EXHIBIT F

**UNITED STATES DISTRICT COURT**

**FOR THE DISTRICT OF ARIZONA**

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|---|---|---|
| **Brian Mecinas, et al.,** | ) | |
| | ) | No. CV-19-05547-DJH |
| Plaintiffs, | ) | |
| | ) | |
| vs. | ) | Phoenix, Arizona |
| | ) | March 4, 2020 |
| **Katie Hobbs, in her official** | ) | 2:01 p.m. |
| **capacity as the Arizona Secretary** | ) | |
| **of State,** | ) | |
| | ) | |
| Defendant. | ) | |

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BEFORE:  THE HONORABLE DIANE J. HUMETEWA, JUDGE

<u>REPORTER'S TRANSCRIPT OF PROCEEDINGS</u>

<u>PRELIMINARY INJUNCTION HEARING - DAY 1</u>

**(Pages 1 through 123)**

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Proceedings Reported by Stenographic Court Reporter
Transcript Prepared by Computer-Aided Transcription

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8   PLAINTIFF:

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10  DR. JONATHAN RODDEN             18         60

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1          **P R O C E E D I N G S**

2          COURTROOM DEPUTY:  On the record in CV-19-5547, DNC

3    Services Corporation versus Katie Hobbs.  This is the time set

4    for a motion hearing.

5          Counsel, please announce for the record.

6          MS. KHANNA:  Abha Khanna for the plaintiffs, Your

7    Honor.

8          THE COURT:  Good afternoon.

9          MS. FROST:  Your Honor, Elisabeth Frost, also for the

10   plaintiffs.

11         MR. GEISE:  John Geise, also for the plaintiffs.

12         MS. ANDERSON:  Jacki Anderson, also for the

13   plaintiffs.

14         THE COURT:  Good afternoon.

15         MS. O'GRADY:  Good afternoon, Your Honor.  Mary

16   O'Grady for defendant Secretary of State Katie Hobbs.

17         And I'll introduce the rest of the attorneys.  Kim

18   Friday and Emma Cone-Roddy from Osborn Maledon.  And Linley

19   Wilson and Kara Karlson and Dustin Romney from the Attorney

20   General's Office.

21         THE COURT:  Good afternoon to you, counsel.

22         Now, let me just take up a housekeeping matter before

23   we proceed.  Yesterday and the day prior in receiving your

24   exhibits, it dawned on me the better use of time, because we do

25   have two fully briefed pending matters before the Court in this

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1  case, that today and tomorrow should be best spent developing

2  the factual record with regard to the statistical data that

3  you're both going to present, and that we would reserve time on

4  Tuesday for both parties to then make their legal arguments to

5  the Court.  And so I want to make sure that we are all sort of

6  on the same page together.

7         I envision that today plaintiffs will put on their

8  expert testimony.  We have until five o'clock.  And tomorrow

9  defendants will put on their expert testimony.  If you wish to

10  reserve or ask for additional time for rebuttal and it goes

11  over the noon hour tomorrow, we'll have to take that up on

12  Tuesday.

13         So, as it stands today, both on the preliminary

14  injunction motion, the response to that, and the motion to

15  dismiss, how much time do plaintiffs anticipate needing to

16  argue the motions on Tuesday?

17         MS. KHANNA:  Your Honor, I don't think we would need

18  more than an hour.

19         THE COURT:  To argue both -- to argue both the

20  preliminary injunction and the motion to dismiss?

21         I understand some of the arguments are intertwined

22  but --

23         MS. KHANNA:  Yes.  I think to argue the legal issues,

24  and, primarily, I think that the arguments very much overlap,

25  and a lot of the factual issues, as you mentioned, will be

6

1    discussed over the course of the next two days, so I don't

2    think we'll need more than an hour.  Maybe I'm being too

3    conservative but --

4              THE COURT:  Conservative is good.

5              Okay.  And, Ms. O'Grady.

6              MS. O'GRADY:  And we would agree with that estimate.

7              THE COURT:  Okay.  So what I will do then is, just to

8    give a buffer there, depending on how it goes tomorrow as well,

9    I will set aside from 9:00 a.m. on Tuesday to, I would say,

10   11:30, and then we can hear argument at that time.

11             And so are you ready to proceed with your witness?

12             MS. KHANNA:  Yes, Your Honor.  I believe the parties

13   had agreed that we would do short opening statements before

14   presenting witnesses, about ten minutes.

15             THE COURT:  I'm sorry, did you say five minutes or

16   ten?

17             MS. KHANNA:  Ten is what we had talked about, I think,

18   in the e-mail, so if the Court would allow that, we would

19   appreciate that opportunity.

20             THE COURT:  No more than ten minutes then.

21             All right.  You may proceed.

22             MS. KHANNA:  Thank you, Your Honor.

23             Good afternoon, Your Honor.  May it please the Court.

24   Abha Khanna for the plaintiff, as I already mentioned.

25             Plaintiffs challenge Arizona's ballot order statute,

UNITED STATES DISTRICT COURT

1    which expressly allots the first position on general election

2    ballots to the political party that won the most gubernatorial

3    votes in each county.

4           Plaintiff's claim is based on two things:  The well-

5    established phenomenon known as position bias, or primacy

6    effect, by which first-listed candidates receive an electoral

7    advantage based solely on their ballot position; and, two, the

8    State's aggregation of the benefit of that known bias in favor

9    of one political party.

10          Now, over the course of the next two days, the Court

11   will hear from several witnesses that the parties are offering

12   as experts on the issue of position bias, and, be sure, those

13   witnesses do disagree on some points.  But before hearing that

14   testimony, it is important to understand what is not truly in

15   dispute.

16          First, there is no real dispute that there is an

17   electoral advantage to being listed first on the ballot.  Even

18   setting aside the expert opinions for the moment, the State of

19   Arizona has recognized in at least three instances that first

20   listed candidates have an advantage.

21          First, it has been recognized by the State's highest

22   court.  In Kautenberger versus Jackson, the Arizona Supreme

23   Court expressly stated that it is a commonly known and accepted

24   fact that in an election, either primary or general, candidates

25   whose names appear at the head of the list have a distinct

8

1  advantage.

2      Second, the Arizona legislature has recognized this

3  fact as well.  Arizona law provides for name rotation in

4  primary elections and in general elections where the candidates

5  of the same party are running, such that the name of each

6  candidate shall appear a substantially equal number of times at

7  the top.  As the Arizona Supreme Court said in Kautenberger, no

8  other reason exists for these statutes except that otherwise

9  there would result disadvantage to some candidates.

10     And, third, in this very case, Arizona's Secretary of

11 State has expressly recognized the State's, quote, goal of

12 ensuring variety in ballot order, has touted the State's

13 efforts to prevent any political party from permanently

14 receiving the first position on the ballot, and argued that the

15 State has already solved the problem of position bias by

16 rotating which party goes first across counties.

17     Now, while we contend this argument is demonstrably

18 wrong, there would be no reason for the State to even attempt

19 to vary ballot position at all if it did not recognize that

20 electoral benefits -- the electoral benefits of being listed

21 first.

22     As for Mr. Trende, the Secretary's proffered expert in

23 this case, while he quibbled with certain techniques employed

24 by plaintiff's expert in estimating the quantum of the primacy

25 effect in Arizona, he will offer no opinion disputing the

UNITED STATES DISTRICT COURT

1    existence of the primacy effect in general or in Arizona

2    elections.  In other words, Mr. Trende provides nothing to

3    undermine the State of Arizona's consistent recognition, as a

4    legal matter, as a policy matter, that electoral advantage

5    accrues to first listed candidates.

6            Second, there is also no dispute that Arizona's ballot

7    order statute on its face favors the party that received the

8    most votes in the last gubernatorial election in each county.

9            Third, there is no dispute that the practical effect

10   of this rule in the context of the lopsided distribution of

11   population across Arizona's 15 counties, that for most of the

12   decade over 80 percent of Arizona ballots have listed

13   Republican candidates first in all general elections.  And in

14   the 2020 election, a full 82 percent of Arizona voters will be

15   presented with ballots that list Republicans first in every

16   single partisan race.

17           Fourth, while the Secretary has tried to justify the

18   law, it cannot be disputed that none of the justifications she

19   has offered are actually directed to the feature of the law at

20   issue in this litigation, which is the State's favoritism of

21   one political party over others similarly situated.  And, time

22   and again, courts have found such favoritism in the assignment

23   of first position on the ballot to be unconstitutional.

24           Based on these undisputed facts alone, this Court can,

25   and should, find that plaintiffs have established a likelihood

1    of success on the merits and will suffer irreparable harm if

2    the ballot order statute remains in effect for the 2020

3    election.

4         Against this backdrop, plaintiffs will present the

5    testimony of two expert witnesses over the next two days.

6    Stanford professor Dr. Jon Krosnick is one of the most renowned

7    experts in the area of position bias and primacy effect and

8    ballot order effect, having studied, published, and testified

9    on that topic for nearly three decades.  Dr. Krosnick will

10   testify to the extensive peer-review literature evidencing

11   primacy effect in elections in multiple jurisdictions across

12   the country and across the world.

13        Dr. Krosnick's testimony will make clear that ballot

14   order effect has been documented in many different types of

15   elections, including partisan elections, high profile statewide

16   elections, and local elections.

17        While Dr. Krosnick will discuss his own work in this

18   field, his testimony will also demonstrate that ballot order

19   effect has been demonstrated by many different researchers

20   working independently.  As Dr. Krosnick will testify, ballot

21   order effect has been observed using a variety of different

22   statistical methods, and papers detailing these methods, and

23   these findings have been published in many different

24   peer-reviewed journals.

25        And, finally, Dr. Krosnick's testimony will illustrate

1    that the findings that ballot order impacts elections are

2    consistent with what we know about human psychology and human

3    decision making in a variety of contexts outside of elections.

4            Dr. Jonathan Rodden, another well-respected Stanford

5    professor, will provide expert testimony that Arizona elections

6    are no exception to these scores of studies.

7            Dr. Rodden analyzed nearly 40 years of Arizona

8    election data to estimate the effect that position bias has on

9    first listed candidates.  And he found strong evidence that

10   first listed candidates in Arizona general elections receive a

11   statistically significant electoral advantage by virtue of

12   their position on the ballot.

13           More specifically, Dr. Rodden's analysis of three

14   different statistical approach methods indicates that, in

15   particular, first listed Republican candidates in open seats

16   where no incumbents are running see an electoral advantage of

17   between 4 and 7 percentage points over their competitors.

18           Dr. Rodden also analyzes the result of a recent reform

19   in ballot order law in North Carolina.  In North Carolina,

20   similar to Arizona, that state used to prioritize the party of

21   the candidate who received the most votes in the most recent

22   governor's election, which had most recently been the

23   Republican party.  But that law was changed in 2018 by the

24   Republican legislature after a Democrat was elected governor.

25   And there Dr. Rodden reports a statistically significant

12

1    increase in Democratic vote share in those precincts in which

2    the ballot position of Republican and Democratic candidates was

3    flipped from one election to another.

4           In other words, Your Honor, Dr. Rodden's testimony

5    will make clear that ballot order matters, not just generally,

6    but in Arizona specifically.  And when the State-sponsored

7    thumb on the scale in favor of one political party is suddenly

8    eliminated, his undisputed, contemporary analysis indicates

9    that it makes a significant difference in election outcomes.

10          Thank you, Your Honor.

11          THE COURT:  Thank you.

12          Ms. O'Grady.

13          MS. O'GRADY:  Thank you, Your Honor.

14          Good afternoon.  And I want to thank everyone for

15   working together so we could get this flexibility in the

16   schedule set that works for the Court and for the parties.

17          Since the Court set aside time for argument next week,

18   we aren't going into our, you know, motion to dismiss,

19   standing, justiciability, failure to state a claim, and the

20   legal issues related to plaintiff's request for a preliminary

21   injunction.  We just want to use this time to briefly describe

22   our view of the case as a whole, and place the testimony that

23   this Court will hear today and tomorrow in context.

24          Now, this case is not your typical voting rights case

25   in a lot of ways.  Nobody here is claiming that they were

13

1    denied their right to vote, that they were prevented from

2    voting in some way.  No candidate is here claiming that he or

3    she was denied access to the ballot.  Nobody is claiming that

4    Arizona's general election ballot is unclear or confusing.  Our

5    general election ballot lists the candidate name -- in partisan

6    races, candidate name followed by a party identifier, Rep, Dem,

7    then has a, you know, a place to mark your vote.  The name, the

8    partisan affiliation are clear.

9         Plaintiff's claim, as they made clear today, focuses

10   solely on our ballot order statute for partisan general

11   elections.  Now, our ballot order statute provides very

12   specific and necessary instruction to local election officials.

13   It dictates the order in which the races are listed, and other

14   issues, so that there is clarity in terms of how all ballots

15   are to be structured.  And for each candidate raised, it

16   dictates the order in which candidates are listed.  And this

17   clear specific direction is an important part of our election

18   administration.  And this statute is 40 years old.  It's the

19   result of bipartisan legislation supported by election

20   administrators.

21        Under our statute, as has been explained, in each

22   county the candidate or candidates of the party that received

23   the most votes in that particular county in the most recent

24   gubernatorial election are listed first, and then the other

25   party -- the major -- other major party would be listed second,

14

1    and then there are other provisions for the other candidates

2    that may be on the general election ballot.  So if the

3    Republican candidate won in Maricopa County, as happened in the

4    most recent gubernatorial election here, Republicans are listed

5    first in Maricopa County.  If a Democrat had won in Maricopa

6    County, the Democrats would be listed first.

7            There is no facial bias one way or the other in this

8    statute.  And there is no uniformity statewide, because it

9    varies county by county depending on what happened in those

10   particular elections.  And, again, voters know which candidates

11   are affiliated with which parties because it says so on the

12   ballot.

13           Now, because we have secret ballots, we don't know how

14   individuals vote, and that's where the social science comes in.

15   And that's why we have -- plaintiff's submitted expert reports,

16   and you're going to hear testimony, about how ballot order may

17   affect the votes of some people.  This is not something that's,

18   you know, proven.  And it's plaintiff's obligation, as it is in

19   any case, to prove their court case as to Arizona's election

20   experience under Arizona's election laws.

21           Plaintiff's social science experts will express

22   opinions that some voters may just vote for the candidate who

23   is listed first simply because that candidate is listed first.

24   Now, of course, we don't know that because we have secret

25   ballots and nobody knows for sure, so that's, again, what the

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15

1    social scientists have been studying.  We'll present expert

2    testimony that challenges plaintiff's research and conclusions.

3    Now, the testimony, as the Court has already observed, will be

4    about statistical analysis and social science research about

5    voter behavior.

6          Plaintiffs believe the fact that Arizona's ballot

7    order statue permits the same party's candidates to be listed

8    first in a county is unconstitutional.  And they believe that

9    both major parties ought to have -- had a constitutional right,

10   essentially, to have an equal opportunity for those votes that

11   are cast by voters who just choose to vote for whoever is

12   listed first.  And that's really where we significantly part

13   ways.

14         As you'll hear in argument next week, we don't think

15   plaintiff's claim raises a legitimate constitutional issue.

16   They may, you know, suggest there are better ways to write the

17   law, and they raise some interesting policy and social science

18   issues, but, again, that's not the issue in this court.  In

19   this court, it's:  Is this unconstitutional?  Is there a

20   legitimate constitutional claim that there is a right that the

21   two major parties get to divide -- if there are any -- these

22   voters who -- the votes cast by voters who vote for whoever is

23   listed first?

24         Now, regard -- we don't think plaintiff's claim raises

25   a legitimate constitutional issue.  And we think this is true

16

1    regardless of what conclusions the Court reaches about the

2    testimony that will be presented today and tomorrow.  As a

3    legal matter, we think it fails.  We believe that a preferred

4    position on the ballot in a particular county under Arizona's

5    ballot order statute and under Arizona's election laws simply

6    doesn't raise a constitutional concern.  It serves a legitimate

7    election administration purpose and satisfies constitutional

8    requirements.  Now, we'll cover those legal arguments next

9    week, so the Court can hear the social science testimony that

10   is the basis for plaintiff's lawsuit.

11           And, if I may, and if it makes sense, I might mention

12   one housekeeping issue with regard to the exhibits.  I believe

13   the parties agreed, in terms of admissibility of -- that --

14   that any exhibits that were included with our written pleadings

15   in this case, the briefing on the motion for preliminary

16   injunction, would be -- could be admitted into evidence.

17           I know that there might be some limitation as to

18   specific issues based on this Court's recent ruling as to

19   potential new issues raised in the second Rodden report.  I

20   understand that plaintiffs have raised concern about the

21   qualifications of our expert, but aside from that, we have

22   agreed that the reports can come into evidence.  And I just

23   wanted to put that on the record, if it's helpful to --

24           THE COURT:  Yes, thank you.

25           MS. O'GRADY:  -- clear that out of the way.

1          THE COURT:  So they are all admitted, those exhibits

2    that your experts are testifying to?

3          MS. O'GRADY:  Yes.

4          THE COURT:  All right.

5          MS. O'GRADY:  Thank you, Your Honor.

6          THE COURT:  All right.  Thank you.

7          You may call your first witness.

8          MS. KHANNA:  Thank you, Your Honor.

9          Your Honor, we call Dr. Jonathan Rodden to the stand.

10         THE COURT:  Sir, please come forward and be sworn.

11         MS. KHANNA:  Your Honor, while Dr. Rodden is coming

12   up, he prepared a binder that just has his two reports so he

13   has -- for his ease of reference.  Would it be possible to let

14   him see it on the stand?

15         THE COURT:  Yes.  Those are the exhibits that have

16   already been admitted?

17         MS. KHANNA:  Yes, Your Honor.

18         THE COURT:  Yes.

19         (The witness was duly sworn.)

20         COURTROOM DEPUTY:  Please state and spell your first

21   name.

22         THE WITNESS:  Jonathan, J-O-N-A-T-H-A-N, Rodden,

23   R-O-D-D-E-N.

24

25

18

1       DIRECT EXAMINATION

2  BY MS. KHANNA:

3  Q.  Good afternoon, Dr. Rodden.

4  A.  Good afternoon.

5  Q.  I think you've just done this, but can you please state

6  again your full name for the Court.

7  A.  Jonathan Andrew Rodden.

8  Q.  And you prepared two reports in this case; is that right?

9  A.  Yes.

10 Q.  Can you please take a look at the notebook in front of you.

11 You will see a couple of tabs listed, Plaintiff's Exhibit 3 and

12 4.

13      Can you please identify those exhibits?

14 A.  Tab number 3 is my initial report in this case dated

15 November 14, 2019.  And tab number 4 corresponds to my reply

16 report dated February 3rd, 2020.

17 Q.  And I'm just going to ask you a few questions briefly about

18 their areas of expertise and the focus of your scholarly work.

19      If you could take a look at exhibit page 61 of

20 Plaintiff's Exhibit 3.  And that would be in the bottom right

21 corner, the exhibit page number 61.

22      Is that your CV?

23 A.  Yes.

24 Q.  And is that a complete and accurate summary of your

25 educational and professional experience?

19

1    A.   Yes.

2    Q.   Can you briefly summarize your educational background.

3    A.   I received an undergraduate degree in political science

4    from the University of Michigan in Ann Arbor.  After that I was

5    selected as a Fulbright Scholar where I studied at the

6    University of Leipzig, in Germany.  And after that I went on to

7    Yale University where I received a Ph.D. in political science.

8    Q.   And what year was that when you received your Ph.D.?

9    A.   That was 2000.

10   Q.   What did you do after earning your Ph.D.?

11   A.   My first job was as an assistant professor at the

12   Massachusetts Institute of Technology.  I was the Ford Career

13   Development Professor of Political Science there.  I received

14   tenure at MIT, and then spent a year at the Center for Advanced

15   Study in the Behavioral Sciences at Stanford.  And, at that

16   point, I was recruited to move to Stanford permanently, and

17   I've been there ever since.

18   Q.   So what positions do you currently hold at Stanford

19   University?

20   A.   I am a professor in the Department of Political Science.

21   I'm also a senior fellow in the Hoover Institution.  I'm also

22   the director of the Spatial Social Science Lab.

23   Q.   What is the Spatial Social Science Lab?  Can you explain

24   that to us?

25   A.   This is something that I started a few years ago.  It's a

20

1  -- I have a little bit of a little space, a classroom, and a

2  group of students I work with.  Occasionally I have a postdoc

3  at the lab.  It's mostly related to teaching and research,

4  using various kinds of election data, geo spatial election

5  data, so data that we can place somewhere in space, so usually

6  individual level data where we have addresses, or election data

7  at the level of precincts and counties.  And we produced, I

8  think, the first national precinct level geocoded election --

9  election results and made a map of those available for

10  researchers, do that kind of research in the United States, but

11  also for other countries around the world.  So it's a lot of

12  statistical analysis of election data is mainly what we do.

13  And we have Ph.D. students and sometimes undergraduates working

14  with us, and postdocs as well.

15  Q.  What classes do you teach at Stanford?

16  A.  I teach a large intro class, kind of the big broad

17  introductory class for our undergraduates.  And that's

18  something I put a lot of time into.

19      I also teach a class called spatial approaches to

20  social science, which is for undergraduates.  And it's really a

21  cross discipline class that focuses on using -- using

22  statistical data, again, geo spatial data from -- from various

23  contexts, with a heavy focus on elections and politics.

24      And then there is a more advanced graduate version of

25  that class for Ph.D. students that also focuses on statistical

1    analysis of election data in the U.S. and around the world.

2    Q.  And what would you say are the principal -- your principal

3    areas of research?

4    A.  Analysis of political economy, political geography, and

5    especially elections.

6    Q.  Have you published articles on these topics in

7    peer-reviewed journals?

8    A.  Yes.

9    Q.  Approximately how many?

10    A.  Somewhere between 25 and 30.

11    Q.  Dr. Rodden, what is the purpose of the peer-review process?

12    A.  Well, peer review is very important.  It's something I

13    spend a lot of my time dealing with and thinking about.  When I

14    -- when I write a paper in political science, send it to a

15    journal, and then the journal edits or sends that paper out to

16    a series of reviewers, and those reviewers take on the task of

17    finding out everything that is wrong with what I've done.  And

18    so I spend a lot of my time thinking ahead about what reviewers

19    will say about what I'm doing.  And it causes a certain level

20    of care and craft and detail in -- in doing -- doing my

21    research.  And it's something that I think always makes the

22    research better when one has to worry about the kind of

23    accountability that comes from the review process.  That is

24    something that all of us take very seriously.

25    Q.  Have you been asked to referee other scholarly work as part

22

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 1 │ of the peer-review process?
 2 │ A.   Yes, very frequently.  I usually have three or four reviews
 3 │ sitting on my desk waiting to be done and editors complaining
 4 │ about the fact that the things are not done yet.
 5 │ Q.   And how do you decide which of those to take on?
 6 │ A.   Well, there are a lot of journals and there are a lot of
 7 │ editors.  I -- at this point, I try to take on the ones that
 8 │ are from the top journals, the ones that I would be most
 9 │ interested in publishing.  And where I feel that I'm putting a
10 │ burden on other reviewers to read my work, I try to also review
11 │ the work that is sent to me by those journals.
12 │ Q.   Is it fair to say that you get far more requests than
13 │ you're able to field as a -- to be a peer reviewer?
14 │ A.   Yes, unfortunately.
15 │ Q.   Has your work been cited in other peer-reviewed articles?
16 │ A.   Yes.
17 │ Q.   Do you know approximately how many times?
18 │ A.   Several thousand.
19 │ Q.   And are you on the editorial board of any publication?
20 │ A.   Yes, Journal of Politics.
21 │ Q.   And, Dr. Rodden, have you been accepted as an expert
22 │ witness in the United States court before?
23 │ A.   Yes.
24 │ Q.   And the cases in which you have testified, I believe, are
25 │ listed on exhibit page 8 of your initial report, Plaintiff's
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 1    Exhibit 3; is that right?

 2    A.   Yes.

 3    Q.   Have any of these cases involved statistical analysis of

 4    elections data?

 5    A.   Yes.  I think almost all of them did.

 6    Q.   Have any of these cases involved performing a regression

 7    analysis like the one you performed in this case?

 8    A.   Yes, I think most.

 9    Q.   Have any of these cases involved an analysis of ballot

10    order effects?

11    A.   Yes, there was one recently in Florida.

12    Q.   I want to call your attention to one of the cases that you

13    cite on that page, it's called Democratic National Committee

14    versus Hobbs.

15              Did you perform a statistical analysis of election

16    data in that case?

17    A.   Yes.

18    Q.   And are you aware that a little over a month ago, on

19    January 27th, the Ninth Circuit issued an en banc opinion in

20    that case?

21    A.   Yes.

22    Q.   And do you know whether it credited your expert report in

23    that case?

24    A.   Yes.  I have read the -- I have read the decision and it

25    cited my -- my report extensively.
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24

1          MS. KHANNA:  Your Honor, pursuant to Federal Rule of

2     Evidence 702, I would proffer Dr. Rodden as an expert in

3     elections and the statistical analysis of elections data to the

4     Court.

5          MS. FRIDAY:  No objection.

6          THE COURT:  He is so designated, so he may testify in

7     that capacity.

8          MS. KHANNA:  Thank you, Your Honor.

9     BY MS. KHANNA:

10    Q.  Dr. Rodden, I want to turn to your work specifically with

11    respect to this case.

12         What were you asked to do in this case?

13    A.  I was asked to examine whether there is a discernable

14    difference between the vote share of the candidate who is

15    listed first on the ballot in Arizona compared with the

16    candidates who are listed second on the ballot, holding other

17    things constant.

18    Q.  And at a high level, how did you approach the analysis to

19    answer this question?

20    A.  Well, the first thing I had to do was collect a lot of

21    data, and was able to put together data at the level of

22    counties from all of the -- all of the general elections held

23    since this ballot order practice was in place from 1980 to the

24    present, so put together a lot of data, and then was able to

25    analyze that data using three different techniques.

1          One was to conduct regression analysis.  Another was

2     to conduct what I'll call a matching analysis.  And another was

3     to zoom in and focus more carefully on close elections.

4     Q.  And we're going to talk about each of those individually,

5     but, for the time being, can you just tell me, why did you use

6     three different techniques or three different analyses?

7     A.  They each have different costs and benefits.  They each

8     have different advantages, but the main -- the main task I was

9     concerned with was something I just mentioned, which is holding

10    other things constant.  And each of these three approaches gave

11    me a little different way to do that.  And if I started to find

12    really different things with each of these approaches, I would

13    start to wonder whether I -- whether there was, in fact,

14    effect, but when I see something similar happening with three

15    different approaches, it starts to increase my confidence that

16    there is a -- that there is an effect, that ballot order

17    actually does have an effect on election outcomes.

18    Q.  And, Dr. Rodden, were you able to reach any conclusions

19    regarding ballot order effect in Arizona?

20    A.  Yes.

21    Q.  And what would -- what did you conclude, generally?

22    A.  Well, broadly I found that there -- there is an effect.  I

23    looked at both Democrats and Republicans and found that both

24    have a -- enjoy a bit of an advantage when they are listed

25    first, but I especially noticed that that -- for Republicans,

1    that advantage was larger when -- when it was an open seat,

2    when there was no incumbent running.

3    Q.  Okay.  So let's walk through your analysis a little bit.

4    And the Court has had the opportunity to study your report, so

5    I'm not going to walk through every single paragraph in detail

6    of your report.  I'm just going to try to touch upon some of

7    the key analyses and conclusions.

8         So let's begin with some background.  Can you explain

9    your understanding of how Arizona's ballot ordering system

10   works?

11   A.  It's my understanding it was just as described earlier,

12   that each election the gubernatorial results are examined by

13   county, and then in the subsequent election the party whose

14   candidate received the most votes in the gubernatorial election

15   is then listed first in all of the other races for all of the

16   other offices.

17        MS. KHANNA:  Can we please pull up Plaintiff's

18   Exhibit 3, figure 1, which is on exhibit page 11.

19   BY MS. KHANNA:

20   Q.  Okay.  So this is figure 1 from your initial report,

21   Plaintiff's Exhibit 3.

22        Can you explain to me what this figure shows?

23   A.  This is very simple.  The columns here are the counties,

24   and the rows are general election years, each one listed for

25   1980 to 2018.  And I've colored in blue the instances in which

1    Democratic candidates were listed first, and colored in red

2    those in which Republican candidates were listed first.

3    Q.   Okay.  So figure 1 tells us which party was listed first in

4    each county in each election.

5            Does this figure suggest that Democrats and

6    Republicans have been listed first in approximately equal

7    numbers during this time frame?

8    A.   This is only looking at counties.  And what we need to know

9    here, of course, is that the population is distributed across

10   counties in Arizona in a way that's more asymmetric than almost

11   any state.  A very large share of the population lives in

12   Maricopa County and a couple of others.  So -- so it's useful,

13   if you want to understand what voters actually see, what share

14   of the voters see one or the other party listed first, it's

15   important to actually look at the voters not just the counties.

16           MS. KHANNA:  Okay.  Can we pull up, please, table 1 of

17   the same exhibit, exhibit page 13.

18   BY MS. KHANNA:

19   Q.   Can you please explain to me what this table shows?

20   A.   This is simply displaying the share of registered voters

21   that are going to see a Republican listed first in a particular

22   year.

23   Q.   So what does this table tell us?

24   A.   Well, we can see that there were a couple of waves, so a

25   couple of elections, 1984, 1986, where there were -- where no

28

1    one saw a Republican listed first.  And we saw that again in

2    2008 and 2010.  But then what we see is those were really

3    anomalous years.  And then the rest of the observations it was

4    well over half of the population was seeing a Republican listed

5    first.  And then over the years that -- that share has gone up,

6    and so that in the last -- in the last period starting in 2012,

7    it's 80 percent, or a little over 80 percent that are -- of

8    voters who are seeing Republican candidates listed first on

9    their ballots.

10   Q.  Okay.

11        MS. KHANNA:  Can we also pull up map 2 of Plaintiff's

12   Exhibit 3, which is on exhibit page 16.

13   BY MS. KHANNA:

14   Q.  What does this graphic demonstrate?

15   A.  This is a map, but it's a map that looks a little different

16   than maps that we're accustomed to seeing.  It's a map that

17   displays the size of each county according to the size of its

18   population.  So it's just a way of visualizing how dominant

19   Maricopa County is in the population of Arizona.

20        And the colors simply correspond to the number of

21   elections, out of 20 total, in which Republicans were listed

22   first.  So it's just a way of visualizing the same information

23   that we could see in the previous table, and really both

24   tables, but -- but looking at it in a map form where we see the

25   actual size of the county.

1   Q.   Thank you, Dr. Rodden.

2           Let's move on to your regression analysis of Arizona

3   elections.  Can you explain to me in layman's terms, what a

4   regression model is?

5   A.   Yes.  It's an effort to establish the relationship between

6   some variables, between some indicators.  In this case there is

7   a dependent variable, and that's the thing that we're trying to

8   explain.  That's the thing that we'd like to understand.  In

9   this case, it's the vote share for one of the major parties.

10  So let me describe it in terms of the Republican party.  So the

11  dependent variable will be the Republican vote share.

12          In this case we have an independent variable that

13  we're interested in understanding.  So the independent variable

14  is something that we are -- we're examining the hypothesis that

15  that independent variable explains variation and the dependent

16  variable.  So the independent variable in this case is very

17  simple, it's just whether or not in a particular county in a

18  particular election the Republican candidate was listed first.

19  So that's the main independent variable.

20          But the purpose of a multivariant regression is that

21  we can then include control variables so we can get the impact

22  of that -- of that ballot order variable, holding constant a

23  variety of other things.  And so the purpose of estimating a

24  multiple regression model like this is to get that impact of

25  ballot order on the vote share, holding constant the series of

30

1  additional things.

2  Q.  So what is your model control for -- what is the --

3  actually, let me step back.

4       What is the key independent variable, as you

5  mentioned, the key fixed variable?

6  A.  It's the ballot order, and it's a simple variable that

7  takes on the value one if the Republican is listed first, and

8  zero if not.

9  Q.  And what are the other control variables that you

10 mentioned?

11 A.  First one I include is incumbency.  One thing we know about

12 elections is that incumbents are much more likely to get a

13 higher -- they're likely to get a higher vote share than a

14 challenger.  So many political science models of this kind,

15 that's the first control variable we might think of, is to try

16 to account for incumbency in some way.

17      I think even more important in this case, though, and

18 this is, I think, at the heart of the matter in trying to

19 understand what's happening in these data, we know that it is

20 the previous gubernatorial election that determines whether or

21 not a candidate is listed first.  And so one of the obvious

22 things -- one of the obvious confounders we're worried about is

23 that if a county is more Republican in a particular year, we'd

24 like to control for that.  We'd like to hold constant the

25 partisanship of the county in a particular year.

1          And what's really fortunate in this case, unlike a lot

2     of other states, Arizona collects yearly data on party

3     registration.  So I'm able to look at what is the share of the

4     population, the share of the registered voters in Arizona who

5     are Republicans, and I can hold that constant and look at the

6     impact of ballot order holding Republican vote share constant.

7     So I view that as the most important control variable in this

8     analysis.

9     Q.  Did you include any other demographic variable, control

10    variables?

11    A.  I did.  I collected a good deal of county level census data

12    on a variety of additional demographic indicators.  And I -- I

13    tried to explore whether it made sense to include those in

14    addition to this party registration variable.  Many of them are

15    highly correlated with party registration, and when I tried to

16    include them in the model along with party registration, they

17    end up not being statistically significant.

18          Another problem with many of these demographic

19    variables is that they are correlated with one another, so I

20    tried to be discerning in which of those variables I included

21    in the model.  And I did include a series of additional --

22    additional models in my -- in my work on the case, and then

23    reported on one of those in the -- in the report.

24    Q.  What were the demographic control variables that you

25    controlled for in your initial model -- in your model in your

32

1    initial report?

2    A.  Yes.  I used population density, which is something that is

3    clearly correlated with voting behavior in states around the

4    country, and, in fact, it's something I recently wrote a book

5    about.  It's a topic of great interest to me and it certainly

6    matters a lot in a lot of contexts.

7              I also looked something -- at something that is

8    especially important in the Arizona context, a variable I would

9    not use, perhaps, in a lot of other states, but it's crucial to

10   use, I think, in Arizona, and that is the share of the

11   population that is Native American.

12             I -- I also included a variable for a percent of the

13   population that rents versus owns.  This is something that --

14   that, for various reasons, works fairly well in explaining

15   election outcomes in lots of places, there is a large

16   literature on this, but especially it's important in Arizona.

17             And I think I also looked at the share of the

18   population that was senior citizens.

19   Q.  So the -- you chose these -- the demographic control

20   variables, I believe you mentioned that are the most

21   statistically significant.  Can you explain what that means?

22   A.  Yes.  It doesn't make sense to add a lot of additional

23   variables to a model that just add noise, that are not helping

24   you explain -- when they're control variables -- and if these

25   things are not helping you explain Republican vote share, and

33

1    if they're highly correlated with one another and they're

2    adding noise to the model, it makes sense to exclude them.  And

3    so after -- after trying a lot of different models, I used the

4    variables that were most consistently helping me explain

5    variation in Republican vote share.

6    Q.   So why -- so you mentioned you collected data on a host of

7    different demographic variables; is that right?

8    A.   Yes.

9    Q.   Why not throw all of the variables into the model?  Can you

10   -- can you explain why that -- why you chose not to do that?

11   A.   Yes.  When we have a specific hypothesis we're trying to

12   test with a regression model, we want to be able to put

13   ourselves in a position to see if that -- if that variable has

14   a significant impact on the outcome variable.  And if we add

15   too much noise to the model, if we add a lot of variables that

16   are doing no -- that are really giving us no explanatory power,

17   it just adds noise to the model and it undermines our ability

18   to see the thing that we're looking for.  So it's -- one has to

19   be discerning and careful in how one estimates a regression

20   model and which variables are included.

21   Q.   So are you aware that the Secretary has hired Mr. Trende to

22   critique your analysis here?

23   A.   Yes.

24   Q.   And you read the report from Mr. Trende as well?

25   A.   Yes.

34

1  Q.  And you're aware that he specifically critiques your choice

2  of demographic variables?

3  A.  Yes.  I believe, above all, he made the case that I should

4  have controlled for the share of the population that was

5  African American.

6  Q.  So why didn't you do that in this case?

7  A.  Well, when I was initially looking at the data, one thing I

8  notice is that -- well, first of all, the African American

9  population in Arizona as a whole is relatively small, but there

10  is also not a lot of the kind of variation across counties that

11  we see in Arizona with the Native American population, it's

12  less on display with the African American population.  So there

13  are, you know, something like 10 or 11 counties in which the

14  African American population is very small, and then there is --

15  there are a couple of other counties where it's a bit higher,

16  but the variation is not really very large.

17          And then, furthermore, when I do -- I noticed right

18  away that when I included the African American share of the

19  population in the model, it gave me a coefficient that didn't

20  make a lot of sense.  It gave me a large positive coefficient,

21  suggesting that the larger the African American population

22  share, the higher the Republican vote share.

23          This is the kind of thing that happens when you put

24  two variables in the same model that are highly correlated with

25  one another, you start to get coefficients that don't make

35

1    sense.  It was highly correlated with population density in

2    this instance.  And so what was happening is that this variable

3    was just capturing -- it was serving as a proxy for something

4    else, so it didn't make sense to put both of those in the same

5    model.

6    Q.  Why would it not make sense that the higher the African

7    American percentage, the higher the Republican vote share?

8    What -- what made you think that that was --

9    A.  We can -- we can look in survey data, we can look at other

10   -- at the individual level.  And we know that African Americans

11   are one of the most reliable constituencies for the Democratic

12   party in a variety of states and in Arizona as well.  So when

13   aggregate to the county level and we put this in the

14   regression, we get a result that doesn't make a lot of sense.

15   And so you don't want to try to -- to put forward a model that

16   you know is -- contains something that is -- that doesn't make

17   sense.

18   Q.  Do other voting rights cases -- don't other voting rights

19   cases often analyze the data in terms of the African American

20   population, including voting rights cases in which you,

21   yourself, have testified?

22   A.  Yes.  In many of these other cases, the cases were about

23   disparate impact of some practice on a racial group.  So the

24   independent variable of interest was race in many of those

25   cases, and so, of course, it was necessary to focus on race.

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1           In this context, this is a control variable.  We are

2     looking at the impact of ballot order, and the question is

3     whether this is a confounder somehow.  If we think there is an

4     impact of ballot order on election outcomes, is there a reason

5     why we think the African American population -- is there some

6     reason, perhaps, why we think that African Americans are more

7     or less likely to -- to -- to -- to look at -- you know, to be

8     using ballot order as a heuristic in elections and something

9     like that.  And I couldn't think of any good arguments of that

10    kind.

11    Q.  So in the course of drafting your initial report, did you

12    run your regression analysis with additional demographic

13    control variables?

14    A.  Yes, I tried to model them in a lot of different ways.

15    Q.  And what happened when you did that?

16    A.  These had no impact on the -- on the coefficient and the

17    standard error for the -- for the variable I was trying to

18    explore.  It also did not increase the -- my ability to explain

19    variation in Republican vote share, which is what you'd like to

20    see in a model.  If you're adding additional control variables,

21    you would like to see the explanatory power of the model

22    increased by a lot, but it wasn't really increasing at all as I

23    tried to include more of these demographic variables, which, in

24    any case, were not statistically significant in most models, so

25    I decided to stick with a more streamlined model.

1    Q.   Okay.  So let's take a look at --

2         If we could call up onto the screen, figure 2 of

3    Plaintiff's Exhibit 3, which is on exhibit page 22.

4         Is that on your screen, Dr. Rodden?

5    A.   Yes.

6         MS. KHANNA:  Your Honor, is that on your screen as

7    well?

8    BY MS. KHANNA:

9    Q.   Does this figure depict the key results of your regression

10   model?

11   A.   Yes.

12   Q.   Can you please explain to me, what does this figure show?

13   A.   Yes.  So let's just focus on the left side of the figure.

14   Remember I explained that there are some models in which the

15   Republican vote share is the dependent variable, and so the

16   left side of the model pertains to those models.

17        And so the first thing we see is a model that just

18   examines all of the elections together, and it gives me one

19   coefficient that suggests that the Republican candidates do

20   better by about two percentage points, a little bit more than

21   that, when they are listed -- when they are listed first.

22        But one of the things I did to go further is analyze

23   whether this effect might be separate -- whether it might vary

24   depending on whether the candidate in question -- I'm sorry,

25   whether there is an incumbent running in the race or whether

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1 it's an open seat. And I find that it is really an important

2 difference here, that this is really driven by the open seats.

3 That when we look at cases where there are incumbents running,

4 the effect is very small and it's not significantly different

5 from zero. So this is really driven by the rather large effect

6 in the open seats for Republicans.

7 Q. And what was the coefficient for the Republican -- first

8 listed Republicans in open seats?

9 A. This one was a little bit more than 5 percentage points.

10 Q. And, again, in your report you say 5.6; is that right?

11 A. That sounds right.

12 Q. And for the sake of clarity, where in your report would we

13 be able to find the exact numerical coefficients that are

14 reflected in figure 2?

15 A. Those are all in the appendix.

16 Q. Did you run any other regressions not reflected in this

17 figure?

18 A. Yes. I ran quite a few additional ones all in the spirit

19 of -- of robustness checks. When I see a result like this, I

20 have a lot of -- they are always questions for me. I always

21 want to know whether this is really what it appears to be. And

22 so one of the ways of checking up on that is I try to think --

23 you know, again, thinking about the review process. I try to

24 put myself in the position of a reviewer at a journal, and I

25 say, what would I ask this researcher to do to probe these

1    results a little further?

2          And so I go through a series of steps to try to see,

3    can I make these results go away somehow?  Are they perhaps

4    driven by some anomalous kinds of cases?  Maybe they're driven

5    exclusively, for instance, by districted elections.  So a lot

6    of -- when we -- when we draw districts in Arizona, in U.S.

7    House or in the -- or in the State Senate, we're going to end

8    up with a lot of observations -- a lot of independent

9    observations that are these districts, and many of them will

10   actually be in Maricopa County.  So that's one question:  Well,

11   maybe this is all somehow driven by Maricopa County, or maybe

12   it's driven by those particular elections.  So I do some things

13   like dropping the districted elections and looking only at

14   statewide elections.

15         I do some things to analyze the possibility, well,

16   maybe this is really about gubernatorial coattail effects, so I

17   do some -- I drop some cases that I think are especially --

18   that would have been especially affected by something like

19   that.

20         I also estimate some models where I only look within

21   candidates.  I say, well, what happens when the same candidate

22   is sometimes listed first and sometimes not listed first?  If

23   we just look within candidates, do we still see an effect?  And

24   the answer is yes.

25         And so there were even a couple additional ones.  I

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1    looked at whether, perhaps, these were really only driven by

2    certain kinds of down ballot elections.  And I did find the

3    effect was larger in down ballot elections than the top of the

4    ballot elections.  And by top of the ballot, I mean president,

5    senate, and gubernatorial elections, but I still see an effect

6    in both instances.  So all of these things are kind of -- these

7    are little additional probes, a little bit different ways of

8    pushing the data to see if I can make the result go away in

9    different ways.  And in each of those instances it didn't go

10   away.  The size of the coefficient moves within a narrow band,

11   but it stays quite similar.

12   Q.  And are all -- are the results of those additional

13   regressions reported in your report?

14   A.  They are described in the text and then the results can be

15   -- can be perused in the appendix.

16   Q.  In the course of drafting your second report, the rebuttal

17   report, did you run the regression analysis with additional

18   demographic control variables?

19   A.  Yes.  In response to some of Mr. Trende's suggestions, I

20   tried the model with all the control variables that I had --

21   that I had included, taking care to enter separately population

22   density and African American share because those are so highly

23   correlated.  And when I do that, the -- the ballot order effect

24   I described in the -- elsewhere in the report stayed -- it

25   remained -- maintained its statistical significance.

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 1   Q.  So you found no significant differences when you ran

 2   additional regressions in your initial report; is that right?

 3   A.  That's right.

 4   Q.  And you found no significant difference when you ran

 5   additional regressions in your second report; is that right?

 6   A.  Right.

 7   Q.  So what would you say is the -- your main conclusion, or

 8   the main conclusion that you derived from your regression

 9   analysis?

10   A.  That ballot order has an effect that we can discern a

11   difference between the -- the vote share of the first listed

12   and second listed candidates, and that that effect is

13   especially large in open seats, and it's really driven by open

14   seats in the Republican case.

15   Q.  I just want to be clear.  How would you characterize the

16   numerical coefficients that are discussed in your report, for

17   instance, that 5.6 number coefficient for Republican first

18   listed candidates in open seats?  Is that some kind of a magic

19   number?

20   A.  No.  I'd like to -- I'd like to be clear about the -- the

21   fact that these coefficients, they -- when I try a lot of these

22   various robustness checks, we can get a coefficient that might

23   be 4.5 in one model, it might be 4 in another, it might be 5 in

24   another, so these move around a little bit depending on how the

25   model is structured, which is completely to be expected, but
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 1   the range in which these -- these coefficients move is

 2   generally quite small.

 3   Q.  Do you recall, approximately, what the range was for first

 4   listed Republicans in open seats across all of the various

 5   regressions that you performed?

 6   A.  My recollection, just putting it all together, is somewhere

 7   between 4 and 6.

 8   Q.  Dr. Rodden, the next analysis that you conducted on the

 9   data that you collected was what you called a matching

10   analysis; is that right?

11   A.  Yes.

12   Q.  And can you briefly describe the theory behind that

13   analysis?

14   A.  Yes.  This is another way of dealing with the challenge of

15   holding -- holding things constant and dealing with this

16   concern that we have a way of allocating ballot order that is

17   driven by past elections.  So this is another cut at solving

18   that problem.  And this cut is trying to -- trying to find

19   matched pairs of elections in counties, trying to find matched

20   pairs of those where a Republican is listed first in one of the

21   pair, and a Democrat is listed first in the other, but where

22   the pairs are as similar as possible with respect to the

23   conditions that would have placed them into this condition of

24   either one party being listed first or another.

25           So what I mean by that, specifically, is we can go
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1    back over time to the election that determined whether you

2    would have a Republican or a Democrat first, and we can find

3    matched pairs of counties where the Republican registration

4    share is as similar as possible, and then we can simply compare

5    whether, in those matched pairs, the ones where the Republican

6    was listed first, the Republican candidate has a higher vote

7    share.

8    Q.   So I believe you mentioned in your reports that the way you

9    matched these elections was by generating something called a

10   propensity score; is that right?

11   A.   Yes.   This just tells us the propensity given what I just

12   described.   Given the -- the Republican registration share in

13   the previous election, what is your propensity to -- to have a

14   Republican listed first, and then we can compare places that

15   have very similar propensities.   That's the way we achieve the

16   matching.

17   Q.   Okay.

18           MS. KHANNA:   If you could call up figure 3 of

19   Plaintiff's Exhibit 3, exhibit page 29.

20   BY MS. KHANNA:

21   Q.   Does this figure depict the key results of your matching

22   analysis?

23   A.   Yes.

24   Q.   Can you please explain to us what this figure shows?

25   A.   I would -- I would describe it in a very similar way that I

1  described the previous one.  Again, we see a -- we see an

2  effect for the Republicans being listed first, which is, in

3  this case, again, somewhere between 2 and 3 percentage points,

4  closer to 3.  But then, again, when we break it down by seats

5  in which incumbents are running versus open seats, we see that

6  the confidence interval -- and what I mean by that, there is

7  these bars that reach up and down from the coin estimate.

8          So in this one the confidence interval reaches all the

9  way past zero on the bottom.  So that means that for

10  incumbents, even those there is a positive coefficient, it's

11  not quite statistically significant.  It's not different from

12  zero in a statistical sense, so the effect for incumbent is

13  measured with -- with not very much precision.

14          But when we look at open seats again, we see that,

15  because that error bar, the bottom part of it is well above

16  zero, this shows us that the effect is statistically

17  significant for -- for open seats, just as in the regression

18  model.

19  Q.  And I believe -- and I think you state in your report that

20  the numerical coefficient here for the Republican first listed

21  candidates in open seats was, is it 4.2?

22  A.  Yes.

23  Q.  Dr. Rodden, what would you say is the -- your main

24  conclusion resulting from your matching analysis?

25  A.  Again, it's that -- that when Republicans are listed first,

45

| | |
|---|---|
| 1 | or when Democrats are listed first, they enjoy an advantage. |
| 2 | They have a higher vote share, other things equal, when they're |
| 3 | listed first, than when they're listed second. |
| 4 | Q. And that's a statistically significant advantage; is that |
| 5 | right? |
| 6 | A. Yes. |
| 7 | Q. And is it fair to say that advantage is driven for the |
| 8 | Republicans largely by their first listed candidates in open |
| 9 | seats? |
| 10 | A. That's correct. |
| 11 | Q. Dr. Rodden, you ran one final type of analysis on this data |
| 12 | in your initial report considering close elections; is that |
| 13 | right? |
| 14 | A. Yes. |
| 15 | Q. And so what is the theory behind that analysis? |
| 16 | A. Yes. This is an approach that -- that, again, when I think |
| 17 | -- put myself in the mindset of a reviewer who would be likely |
| 18 | to take this report as a journal article and give me some |
| 19 | comments on it, I believe that most political scientists would |
| 20 | see this dataset, see this structure, and think this is an |
| 21 | ideal setting for conducting what is called a close election |
| 22 | discontinuity. And this is another way of solving this -- this |
| 23 | problem I have, which is to try to disentangle the overall |
| 24 | Republican -- the overall share of the population that prefers |
| 25 | Republican candidates in a county that might have led it to |

1   choose a Republican gubernatorial candidate two or four years

2   ago, disentangling that and the impact of vote share.  So this

3   is another approach to that, that I think would -- is the one

4   that most political scientists would want to turn to in this

5   instance.

6   Q.  Can you describe that approach of close elections analysis?

7   A.  Sure.  The idea here is that if we can find some elections

8   where the previous -- the previous election, that gubernatorial

9   election, again, the one that assigned you either to what we

10   might call the treatment status, which is having Republicans

11   listed first, or the control status, which is having a Democrat

12   listed first, when we go back to the election that caused that

13   -- that divergence, if we look at elections that were really

14   close, and we just ignore all the other elections but we just

15   focus on the elections in that narrow band, say between

16   45 percent and 55 percent, where it's more plausible to think

17   that the difference between a county that went one way and a

18   county that went the other way is due to some random chance,

19   that's the kind of logic here.  If we focus in on those, we

20   have a new way of understanding the difference, of kind of

21   dealing with the problem that counties that have Republicans

22   listed first might be different than the counties where they're

23   not listed first.  So we think these are hopefully as similar

24   as possible if we just look at the close elections and throw

25   everything else out.

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1          Now, the down side of that is we have fewer

2     observations.  We're only looking at those observations that

3     are very close, so it's a very different approach.  We're

4     throwing out a lot of data but we're zooming in on the data

5     that we think might be very useful in identifying this effect.

6     Q.   I believe you mentioned social scientists in this field,

7     you know, if you were thinking of who might be peer reviewing

8     the study, would actually want to know the answer to the

9     questions in the close elections context.  Why do you believe

10    that?

11    A.   People view this as -- as the best way to -- to identify

12    causal effect in this kind of setting that -- looking at these

13    very close elections.  This technique developed, in fact, in

14    the study of incumbency.  People wanted to know whether

15    incumbents do better -- whether incumbency actually gives you

16    an advantage or whether it's really just a sign of being a

17    better candidate, and this is the technique they came up with.

18    And so there are a lot of studies that use this approach, and

19    that is the preferred approach of many political scientists for

20    answering this type of question.  So here it's applied to

21    ballot order.

22    Q.   So what was your main conclusion of your -- from your close

23    election discontinuity analysis?

24    A.   Again, this led to a broadly similar conclusion to the

25    other two we saw, an advantage for the first -- the party that

48

1    was listed first.

2    Q.  And, in fact, it yielded a higher numerical coefficient in

3    this analysis than in the other ones; is that right?

4    A.  It did.

5    Q.  And you explain in your report that -- that gives you a

6    little bit of pause, or you maybe question the precision of

7    that particular coefficient in particular.  Can you explain why

8    that would be?

9    A.  Yes.  This is the kind of analysis where the -- the -- the

10    things we can learn from the close election discontinuity kind

11    of require that on either side of 50 percent, that the cases we

12    have on both sides look the same.  Remember in the matching

13    analysis, we could actually verify that they look the same.

14           And the same thing, we can do that here, we can look

15    at the close elections and see.  Did the elections that the

16    Republicans just barely won look similar to ones that they

17    barely lost.  And that's kind of the -- that's the idea behind

18    this analysis.

19           But when we look at that, we see that the Republican

20    registration share is actually a little bit higher than the

21    ones that they barely won, and so that gives me a little bit of

22    pause.  I don't have the ideal balance on both sides of that --

23    of that discontinuity that I would want for this -- for this

24    approach to really kind of nail the effect that I'm trying to

25    find.  So that gives me some pause and it leads me to suggest

1　that this effect size might be a little too large.

2　Q.　So what, if any further, insight into the ballot order

3　effect in Arizona general elections did this close elections

4　analysis give you?

5　A.　Well, it just adds to the confidence that kind of grows

6　with each of these very different approaches.　When we see the

7　coefficient going in the same direction and we see that it's

8　significant, it adds to my confidence.

9　Q.　Dr. Rodden, you also analyzed the results of recent

10　elections in North Carolina; is that correct?

11　A.　Yes.

12　Q.　Why?

13　A.　I was especially attracted to looking at the analysis of

14　North Carolina because of a reform that they enacted very

15　recently.　So I've been -- I follow these things and I -- I

16　noticed that in the 2018 -- in the run up to the 2018 election,

17　they had a system that was similar to states like Arizona, and

18　they suddenly changed it in a way that allowed me an

19　opportunity to identify -- an experimental opportunity to

20　identify a causal effect.

21　Q.　So what question were you answering in the course of -- in

22　conducting this North Carolina analysis?

23　A.　The question there was if a party has a consistent ballot

24　order advantage, so if a party is listed first consistently,

25　what happens if you take away that advantage for roughly half

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1    of the -- of the races, and you do so in a way that's

2    essentially, random?  We have a -- then we have a really nice

3    opportunity.  We can look at the before and after in both of

4    those instances and we can see if it brought about a change in

5    the vote share.

6    Q.  And I believe in your report you refer to the North

7    Carolina context as a natural experiment.  What does that mean?

8    A.  Yes.  This is the kind of thing that researchers get

9    excited about.  When we see something like this, we feel that

10   we -- what we enjoy is when a state government does something

11   for us that we would have liked to have done in the lab, or we

12   would have liked to encourage them to do.  Of course,

13   governments don't do these things for us very often, but once

14   in a while, in pursuing some other motive, they kind of stumble

15   into something that is analytically very useful for us, it's

16   really crisp.  And this is one of those opportunities.

17         When they -- when they reformed the ballot order in

18   the way they did, it gave me an opportunity to really drill

19   down and collect the type of data that I would want to really,

20   truly hold everything constant.  The things that I'm holding

21   constant in this case with regressions and so forth, there I

22   can hold truly constant.

23   Q.  It kind of replicates the laboratory in a real world

24   setting?

25   A.  Right.

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1    Q.  So can you describe what happened in North Carolina?  What

2    was the ballot ordering scheme in 2016 in North Carolina?

3    A.  It was a system in which the gubernatorial -- the winner of

4    the gubernatorial election was listed first everywhere in the

5    state, so -- and there are some other states that work that way

6    as well.  So every election -- every ballot in 2016 had

7    Republicans listed first because the Republican party had won

8    the most recent gubernatorial election.

9    Q.  What happened in 2018?

10   A.  So in 2018 there was a gubernatorial election that was very

11   closely contested.  The Republican -- the Democrat candidate

12   won, and so that in the run up to the 2018 election, the

13   legislature, right before the election, changed the law.  And

14   the way they changed it was by introducing a modified

15   alphabetical scheme.  So that -- so they chose the letter of

16   the alphabet to start with, and then used that as a starting

17   point for an alphabetical arrangement, and so all of the

18   candidates then were listed alphabetically.

19   Q.  And, just to clarify, it was the Republican legislature

20   that changed the ballot ordering scheme after a Democratic

21   governor was elected; is that right?

22   A.  That's correct.

23   Q.  And so all of the races in all of the precincts in 2016

24   listed a Republican first in partisan elections; is that right?

25   A.  Yes.

52

1    Q.  And approximately how many of the precincts within each

2    race listed Republicans first in 2018?

3    A.  It was about half.

4    Q.  What about the other half?

5    A.  Most of them had Democrats listed first, but there was some

6    -- there was a small handful, I believe, that had Libertarians

7    listed first.

8    Q.  Does North Carolina list the party affiliation of each

9    candidate next to the candidate's name like in Arizona?

10   A.  Yes.

11   Q.  Please pull up figure 4 of your initial report.  I think

12   it's Exhibit 3, on exhibit page 36.

13        Does this depict the results of your North Carolina

14   analysis?

15   A.  Yes.

16   Q.  And what does this figure tell us?

17   A.  Let's start on the left where it says, all precincts.  So

18   here we're simply looking at -- I want to be clear that this is

19   a -- what we call a difference in difference.  And what I mean

20   by that is that we're interested in the change in the

21   Democratic vote share from 2016 to 2018.  And this is a year

22   that -- some call it a blue wave.  It was a year in which the

23   Democratic vote share was increasing across the board.  And so

24   we're not just interested in the increase in the Democratic

25   vote share, we're interested in the change, you know, the

53

1    difference in this change between what we might call the

2    treatment group again and the controlled group.

3          So we'll think of the treatment group as that group of

4    precincts in which the ballot order changed away from

5    Republican primacy.  And we'll think of the controlled group as

6    the ones that maintained Republican primacy all along.  And so

7    this is the difference.  This is the difference.  And it's

8    something like one-and-a-half percentage points.

9          THE COURT:  Let me just clarify for the record.  It is

10   page 37, not 36, at least by my -- by my notebook.

11         MS. KHANNA:  You're right, Your Honor.  I think I was

12   looking at the wrong page number of the report page number, but

13   the exhibit page number is 37.

14         Thank you for clarifying, Your Honor.

15   BY MS. KHANNA:

16   Q.  So, Dr. Rodden, you mentioned that the coefficient for all

17   precincts is about 1.5 percent.  Can you explain to me what

18   that 1.5 percent means?

19   A.  Yeah.  That just means that the increase in the Democratic

20   vote share, again, there was an increase across the board in

21   this election, but the increase was higher by 1.5 percentage

22   points in the places where the Republican primacy was removed,

23   so you might think of it as the impact of the reform.

24   Q.  Can you tell me a little bit about these -- about the open

25   seats and the same candidates markers on this figure 4.

UNITED STATES DISTRICT COURT

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1  A.  Again, I thought it would be useful having all the data, to

2  break it down a little bit and see what was happening in

3  different kinds of seats.  And, again, this is very consistent

4  with what I'm seeing in Arizona.  I see the effect is biggest

5  in open seats.

6          I still see it there for Republican incumbents.  I

7  don't see an effect for Democratic incumbents.  But one of the

8  other things I thought was interesting was that sometimes the

9  same two candidates are running.  So sometimes in 2016 there

10  was someone running and there was a challenger, and the same

11  person ran again next time.  So that makes the experimental

12  quality even a little nicer, because we're holding constant the

13  actual candidates.  We're seeing the same two people running

14  again but with a different ballot order regime.  And, again, we

15  see a significant effect that is even a little bit larger than

16  for the rest of the analysis.  You see the confidence interval

17  is wide, because there aren't very many of these.  I can't

18  remember the number, it's a rather small number of cases, but

19  we are able to see what happens with those.

20          THE COURT:  Let me just interrupt for a second.  I

21  lost some portion of what you're examining here.

22          You're comparing the results of the 2016 election and

23  the results of the 2018 changed ballot ordering election.  And

24  those 2018 changes reflect alphabetically placed individuals?

25          THE WITNESS:  Yes.  And so what's happening with the

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1  alphabetical introduction, is that for some candidates

2  switching to alphabetical doesn't change anything.  They're

3  fortunate enough that, you know, maybe their name starts -- the

4  thing started with F, so maybe their name starts with G, and so

5  they're still listed first, so I'm taking them as the control

6  group.  But then there are others who were unlucky and their

7  name fell further down the alphabet, so now they're listed

8  second in 2018, so I'm comparing those two groups.

9          THE COURT:  Okay.

10          THE WITNESS:  And the change is bigger -- there is a

11  bigger increase in Democratic vote share for the group that was

12  -- where the Republicans were no longer listed first.

13          THE COURT:  All right.  Thank you.

14  BY MS. KHANNA:

15  Q.  So to clarify, you're comparing the approximately half of

16  precincts in 2018 where Republicans are listed first, to the

17  approximately half of precincts in 2018 where Democrats are

18  listed first?

19  A.  Or Libertarians, but mostly Democrats, yes.

20  Q.  And finding what the chain with the -- what the differences

21  are in vote share between those two categories over the 2016

22  election?

23  A.  Yes.  It's a little hard to keep track of because we have

24  -- we're comparing changes over time, and we're finding --

25  we're comparing that change for one group with that change for

1   another group.

2   Q.  So Democratic vote share increased, generally, from 2016 to

3   2018?

4   A.  I say it increased for almost every precinct in the state,

5   yes.

6   Q.  But your analysis found that it increased more where

7   Republican primacy was removed in those precincts; is that

8   right?

9   A.  That's right.

10  Q.  And you find that it was increased even more where

11  Republican -- where there were now open seats --

12  A.  That's right.

13  Q.  -- and the primacy was removed?

14  A.  That's right.

15  Q.  And you found it was increased -- and that open seat -- was

16  that coefficient around, what, 7 point --

17  A.  Yes.

18  Q.  -- 8 percent -- 8 percentage points, I believe?

19  A.  Yes.  So the story that is emerging here is when incumbents

20  are on the ballot, these effects seem to be smaller in general.

21  Q.  And that that increase in Democratic vote share was also

22  more, around 4 percentage points, when the same pair candidates

23  was running from one election to the next?

24  A.  Yes.

25  Q.  Right?

1     Let me --

2          THE COURT:  I'm sorry, I might be asking a question

3     that you may be asking later, but because we are talking about

4     North Carolina now, my obvious question is what kind of

5     demographics did you use there?

6          THE WITNESS:  Well, that's the nice thing about this

7     experimental opportunity, is that when I'm just -- I'm looking

8     at -- I'm not really using any demographics here.  I'm just

9     looking at the change between these two groups.  And the idea

10    is that because ballot order -- because -- because alphabetical

11    order is something that's, essentially, like -- like random,

12    that we don't have to worry much about -- about demographic

13    differences between these -- between these places.  That they

14    are -- that they should be, essentially, the same.

15         THE COURT:  All right.  Thank you.

16    BY MS. KHANNA:

17    Q.  Building on the Court's question, Dr. Rodden, do you think

18    that these results are informative outside of North Carolina?

19    A.  Well, I do, because ballot order is something that is,

20    essentially, a psychological phenomenon, and this was an

21    especially good setting for looking at it.  And especially it

22    was in the setting of a reform.  And so for other states that

23    might consider some kind of reform, this suggests that that

24    reform would have an impact on elections.

25    Q.  Could you perform the same kind of analysis that you did in

1   North Carolina in Arizona?

2   A.   Only if the state government decided to give me the

3   opportunity and set up an experiment for me of the right kind.

4   But, no, this is something that really required this kind of

5   reform to be enacted for me to be able to do that analysis.

6   Q.   North Carolina provided that natural experiment --

7   A.   Yes.

8   Q.   -- for you; is that right?

9        So does that mean that the only places then where you

10  can find evidence of a ballot order effect for your purposes

11  for first listed candidates are in those states like North

12  Carolina that already provide candidates an equal opportunity

13  to be listed first?

14  A.   No, I wouldn't go that far.  I think there are research

15  settings, such as when the ballot order is rotated across

16  precincts in a way that's essentially random, or there are

17  settings like North Carolina where we suddenly go to an

18  alphabetical ordering that is, essentially, the same thing as

19  random when we have these experimental opportunities, but that

20  doesn't mean those are the only chances we have to learn

21  something about the world.

22        I think in the social sciences if we could only learn

23  from true experiments, we'd be very limited in what we could

24  study.  And so looking at Arizona, we do have variation in

25  ballot order that allows me to -- to do some, what we call

1    observational analysis, that I think is also still useful.

2    Q.  So we don't just throw up our hands for lack of laboratory-

3    like conditions when we're trying to study a real world effect;

4    is that right?

5    A.  That's right.  I put together some data and do our absolute

6    best to learn what we can from it.

7    Q.  And, in fact, as you mentioned -- as you demonstrated in

8    your three analyses, there are a variety of statistical methods

9    in order to discern effects in settings like Arizona; is that

10   right?

11   A.  That's right.

12   Q.  So what, if anything, does this analysis tell us about

13   Arizona, this North Carolina analysis?

14   A.  It may suggest to me that -- that reform would have an

15   impact.  They started in somewhat similar places, and we saw

16   here that when this kind of reform was enacted, it did have an

17   impact on vote shares of candidates.

18   Q.  When you say reform, what are you referring to there?

19   A.  A change in the ballot order, away from a system in which

20   the same party is listed first on every ballot.

21            MS. KHANNA:  Thank you, Dr. Rodden.

22            THE COURT:  Ms. O'Grady, who is going cross?

23            MS. FRIDAY:  I am, Your Honor.  I'm Kimberly Friday.

24            THE COURT:  Yes.  Ms. Friday, come forward, please.

25            MS. FRIDAY:  Thank you.

60

1          THE COURT:  And just so you know, counsel, I plan to

2     take a break for our court reporter at about 3:30, and so we'll

3     be in break for about ten minutes.

4          MS. FRIDAY:  Okay.  Thank you for letting me know

5     that.

6                         CROSS-EXAMINATION

7     BY MS. FRIDAY:

8     Q.  Good afternoon, Dr. Rodden.

9     A.  Good afternoon.

10    Q.  Now, do you have a degree in statistics?

11    A.  No.

12    Q.  Have you taken classes in statistics?

13    A.  Yes.

14    Q.  Can you tell me about those classes.

15    A.  When I was a Ph.D. student, I took the sequence of

16    quantitative methods classes at Yale in my Ph.D. program.

17    Q.  Okay.  Anything else?

18    A.   I try to keep up on -- it's a constant learning process.

19    There are always new things happening and I'm constantly trying

20    to increase my skills, but once one is a full-time professor,

21    it's hard to continue to take classes, so one tries to keep up

22    in a variety of ways.

23    Q.  So that's no?  No, you haven't taken any additional

24    classes?

25    A.  No continuing education or anything like that, no.

UNITED STATES DISTRICT COURT

1   Q.   Okay.   I believe you used the Stata program in your

2   analysis; is that right?

3   A.   Yes.

4   Q.   How did you learn how to use the Stata program?

5   A.   Well, that's a little bit like asking someone how they

6   learned to talk.   It's something I've been using since I

7   started graduate school, so it's been many years I've been

8   using it.

9   Q.   Are there any classes or anything like that on how to use

10  the Stata program?

11  A.   Sometimes it's embedded in a class.   I do some teaching

12  with my own students that go through some techniques that are

13  applied in Stata, but I don't know if it was used in the

14  classroom when I was in graduate school.   I think it may have

15  been.

16  Q.   You don't remember being taught about the Stata -- is it

17  Stata or Stata?   You have to excuse me.

18  A.   I say Stata.   I have heard people say Stata, so it's okay.

19  Q.   You don't remember being taught about the Stata program

20  when you were taking statistics courses?

21  A.   I believe I was, but most of the learning we do in

22  applications of techniques using software is some learning by

23  doing.

24  Q.   And do you typically rely on graduate students to assist

25  you with your work?

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1   A.   Sometimes.

2   Q.   Did you rely on anyone else to assist you with your work in

3   this matter?

4   A.   I did not rely on anyone to help me with the analysis.  I

5   did rely on a graduate student to help me with the collection

6   of the county level data.  And some of the data we're in pdf's,

7   and we had to work on get the data from pdf form into a tabular

8   form that we could work with.

9   Q.   But the analysis was all your own?

10  A.   Yes.

11  Q.   Okay.  And you've served as an expert witness a number of

12  times, I believe you testified?

13  A.   Yes.

14  Q.   Fair to say you routinely serve as an expert for Democratic

15  party interests?

16  A.   In some of the cases I have.  There have been a couple of

17  others that were not attached to any political party.

18  Q.   And what were those?

19  A.   There was a -- there was a case that involved the

20  Ferguson-Florissant School District in Missouri.  I was

21  retained by the -- by the -- the counsel for the school

22  district, which was a defendant in a voting rights case.

23  Q.   Was that a vote redistricting case?

24  A.   There were questions of districts involved, but it was

25  mainly a case about whether -- it was a challenge to a system

| 1 | that was -- it was an at large system that was required by |
| 2 | state law that was being challenged by some plaintiffs who |
| 3 | wanted to introduce electoral districts. |
| 4 | Q. Any other cases in which you have not been serving as an |
| 5 | expert for Democratic party interests? |
| 6 | A. There was a case in -- in Florida where I was -- I believe |
| 7 | it was a nonpartisan group that -- that were the -- that were |
| 8 | the plaintiffs and who hired me. |
| 9 | Q. And what case was that? |
| 10 | A. That was a redistricting case. |
| 11 | Q. Okay. Have you ever served as an expert witness for a |
| 12 | political party other than the Democratic party? |
| 13 | A. Not for a party, no. |
| 14 | Q. And in this case here, you do not offer an opinion about |
| 15 | whether ballot order is likely to have a substantial impact on |
| 16 | any 2020 election race in Arizona, do you? |
| 17 | A. No. |
| 18 | Q. Did you examine whether ballot order is likely to have a |
| 19 | substantial impact in any 2020 election race in Arizona? |
| 20 | A. No. I didn't have any good sense of how to do that. |
| 21 | Q. Did -- do you offer an opinion about whether the ballot |
| 22 | order historically had a substantial impact on a contested |
| 23 | election in Arizona? |
| 24 | A. I might need to ask for a little clarification of what you |
| 25 | mean by that. Do I analyze a specific contested election and |

1  claim that it was the difference?

2  Q.  Correct.

3  A.  That's not something that I do in the report, no.

4  Q.  Okay.  And did you examine whether, historically, the

5  ballot order effect you found had a substantial impact on a

6  contested election in Arizona?

7  A.  Well, this is a --

8        MS. KHANNA:  Objection, Your Honor.  Calls for

9  speculation of what a substantial impact.

10        MS. FRIDAY:  I'm happy to expand on that.

11        THE COURT:  Well, yes.  I guess it's the form of the

12  question.  I'll sustain the objection.

13        MS. FRIDAY:  Okay.

14  BY MS. FRIDAY:

15  Q.  So you mentioned earlier in your testimony that you served

16  as the Democratic party's expert in a Florida case challenging

17  ballot order, correct?

18  A.  Yes.

19  Q.  And there you opined that the ballot order effect was

20  substantively large and likely had an impact on who wins and

21  who loses.  Do you remember that?

22  A.  My analysis in Florida was an examination of down ballot

23  races versus top of ballot races.  You'd have to remind me of

24  what specific phrase or claim you might be referring to.  I

25  don't recall.

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1        MS. FRIDAY:  Okay.  I would like to look at Exhibit DX

2   4.  This is an impeachment exhibit from the defendants.

3        MS. KHANNA:  Objection, Your Honor.  I'm not sure what

4   he stated that the exhibit is meant to impeach him on.

5        THE COURT:  Well, I think you're proffering it as

6   refreshing his recollection, not at this juncture impeachment.

7        Correct me if I'm wrong, counsel?

8        MS. FRIDAY:  Correct.  Correct.  That's correct.  I

9   just was referring to the fact that it's listed as an

10  impeachment exhibit, submitted to the court that way.

11       THE COURT:  With that clarification, then I'm going to

12  overrule the objection.

13       MS. KHANNA:  Thank you, Your Honor.

14       THE COURT:  Do I have a copy of that, counsel?  Did

15  you provide me with that?

16       MS. FRIDAY:  I believe we did.

17       MR. FRANKS:  I don't believe -- I think I brought an

18  extra set.

19       THE COURT:  That's okay.  Go ahead and let him take a

20  look.  I may not necessarily need to see it at this point.

21       I have -- I have your Exhibits 101 through 105.  Is

22  there another set?

23       MS. FRIDAY:  Yes.  We have a set of impeachment

24  exhibits that we submitted on Monday pursuant to the District's

25  standing orders.

UNITED STATES DISTRICT COURT

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1          THE COURT:  It may be in my chambers and so I'll have

2     to double check.

3               All right.  You can go ahead.

4               MS. FRIDAY:  Could you, Rob, please put up DX 4 --

5               THE COURT:  All right.  We -- for purposes of keeping

6     the exhibits in order, it will be redesignated Exhibit 106.

7               MS. FRIDAY:  106.

8               MS. KHANNA:  Your Honor, can I ask that we receive a

9     copy as well?

10              THE COURT:  Yes.  Certainly opposing counsel should

11    have swapped their exhibits prior to the proceeding, but,

12    please, if there is an extra copy, give it to plaintiff's

13    counsel.

14              All right.  Take a moment to look at that exhibit and

15    you can ask the previous question, Ms. Friday.

16    BY MS. FRIDAY:

17    Q.  Dr. Rodden, do you now have what's been marked as

18    Exhibit 106 in front of you?

19    A.  Yes.

20    Q.  And what is this?

21    A.  This is my expert report in Nancy Carola Jacobson versus

22    Detzner.

23    Q.  That's the Florida ballot voter case?

24    A.  I believe so.

25    Q.  Could I direct your attention to the bottom of page 22,

1    please.

2            Do you see the paragraph starting with:  This effect

3    is substantively large and likely has an impact on who wins and

4    who loses?

5    A.   Yes.

6    Q.   Does that refresh your recollection that you testified in

7    the Florida case that there was a ballot order effect that had

8    an impact on who wins and who loses?

9    A.   This is just a paragraph in which I -- in which I pointed

10   out that elections are very close in -- in Florida.

11   Q.   You did not --

12   A.   Within a very small margin that was -- that was around the

13   size of the -- of the -- well, I have to look more carefully

14   now but --

15           Yeah.  This is really just -- just kind of going

16   through some statistics on how close Florida elections are, as

17   far as I can tell.

18   Q.   Well, you're opining about a ballot order effect that you

19   saw, right, in statewide elections?

20   A.   In this paragraph?

21   Q.   Yeah, in this section of your report.  And when you say,

22   this effect is substantively large and likely has an impact on

23   who wins and who loses, you're talking about the ballot order

24   effect that you found in that case, right?

25   A.   I just need to be clear that this -- this entire report was

1   focusing on a very specific question about the difference

2   between higher order elections and down ballot elections, so it

3   needs to be understood in that context.

4           I was not trying to -- I was not opining about an

5   absolute ballot order effect.

6   Q.  Okay.  But you did find that -- you did find an effect that

7   in your view had an impact on who would win and who would lose

8   an election?

9   A.  Yes.  I was referring to the -- some of these lower order

10  elections, that's right.

11  Q.  And you did not find that in your work in this case, did

12  you?

13  A.  I did not address that question in this report.

14  Q.  And did you examine the question?

15  A.  No.

16  Q.  Okay.  And in this case, you also don't --

17          MS. FRIDAY:  You can take that down, Rob.  Thank you.

18  BY MS. FRIDAY:

19  Q.  You also don't offer any opinion about whether Arizona's

20  ballot order statute was enacted with partisan animus, did you?

21  A.  No.

22  Q.  That's just outside the scope of your opinion?

23  A.  That's correct.

24  Q.  You studied elections, right, Dr. Rodden?

25  A.  Yes.

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1    Q.   I believe you testified in your direct that your areas of

2    specification are political economy, political geography, and

3    elections?

4    A.   Yes.

5    Q.   Do you agree it's important to understand the

6    characteristics of the elections you are studying?

7    A.   Yes.

8    Q.   Have you studied Arizona's congressional districts?

9    A.   I don't believe I've published a paper on them, but I'm

10   familiar with them and have looked at them, yes.

11   Q.   And in addition to this case, you've also been an expert in

12   other Arizona cases, I believe you testified on your direct,

13   right?

14   A.   Just one other, yes.

15   Q.   So you've had occasion to be familiar with Arizona's

16   congressional districts?

17   A.   Yes.

18   Q.   And Arizona's state senate districts?

19   A.   Yes.

20   Q.   And on your direct you discussed the control variables that

21   you used in your modeling in this case?

22   A.   Yes.

23   Q.   Is that right?

24           THE COURT:  Ms. Friday.

25           MS. FRIDAY:  Yes.
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1          THE COURT:  I'm going take a break at this time and we

2    can pick up where you left off.

3          And we will stand in -- I would say, let's take a

4    15-minute break here and resume at a quarter 'til the hour.

5          MS. FRIDAY:  Thank you, Your Honor.

6          THE COURT:  All right.

7          (Recess take, 3:31 p.m. - 3:46 p.m.)

8          THE COURT:  Ms. Friday, you can continue.

9          MS. FRIDAY:  Thank you, Your Honor.

10   BY MS. FRIDAY:

11   Q.  Dr. Rodden, on your direct, you discussed the control

12   variables that you used in your modeling, right?

13   A.  Yes.

14   Q.  And those were variables that you applied on the county

15   level?

16   A.  Yes.

17   Q.  Have you become familiar with the demographics of Arizona's

18   counties, at least for the variables that you used?

19   A.  Yes.

20   Q.  So I'm going to ask you some questions now about your

21   initial report, which is marked as Exhibit 3.

22          Do you still have that in front of you for reference?

23   A.  Yes.

24   Q.  Do you agree, as an initial matter, that there are multiple

25   ways to model whether a candidate in Arizona is given an

```
 1   advantage solely by reason of being listed first?

 2   A.  Yes.

 3   Q.  And in your initial report you, yourself, used three

 4   different methods to answer this question as you discussed on

 5   your direct exam, right?

 6   A.  Yes.

 7   Q.  You had a linear aggression model, which you also referred

 8   to as your basic model?

 9   A.  Yes.

10   Q.  And a matching observation?

11   A.  Yes.

12   Q.  And, finally, you focused on a subset of elections, this

13   was the close election discontinuity techniques that you

14   discussed, right?

15   A.  Yes.

16   Q.  And you got different results using each of these methods,

17   right?

18   A.  Different coefficients but in the same -- same direction.

19   Q.  So the size of the effect was different?

20   A.  Yes.

21   Q.  And none of those models have been peer reviewed, have

22   they?

23   A.  This report has not been peer reviewed, no.

24   Q.  Okay.  And nobody else has looked at your report and

25   checked it for errors or opined on the validity of the models
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1   you used?

2   A.   Mr. Trende has, but other than that, no.

3   Q.   Other than that, no.

4          And your regression analysis found that Republicans,

5   on average, since 1980 have received a statewide advantage of

6   around 2.2 percent from being listed first; is that right?

7   A.   That was the main regression result, yes.

8   Q.   And you talked a little bit on your direct about how

9   Arizona's population is distributed unevenly among its

10  counties, right?

11  A.   Yes.

12  Q.   Your regression analysis is not weighted by population, is

13  it?

14  A.   No.

15  Q.   So you use population density as a control variable but you

16  don't use total population as a control variable, do you?

17  A.   No.

18  Q.   Your analysis treats all 15 counties in Arizona equally,

19  right?

20  A.   Yes.

21  Q.   So you calculated an average statewide ballot order effect

22  over 40 years of 2.2 percent when Republicans are listed first,

23  but even assuming that result is accurate, you can't say that

24  the ballot order effect in Maricopa County is 2.2 percent, can

25  you?

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1   A.   No.

2   Q.   What your coefficient tells us is that statewide across all

3   counties the average ballot order effect over 40 years is X,

4   but it doesn't tell us about the average ballot order effect in

5   a particular county, does it?

6   A.   That's right.

7   Q.   Okay.  And your matching analysis found an advantage to

8   Republicans of being listed first of about 2.9 percent over

9   this same 40-year time period; is that right?

10  A.   Yes.

11  Q.   And the close election discontinuity technique found an

12  average of 7.5 percent, which is more than double the

13  percentage found in the other two models?

14  A.   That's correct.

15  Q.   And you said in your report that this close election

16  discontinuity technique was, in your words, probably less

17  reliable than the other two methods; is that right?

18  A.   Yes, for reasons I think I covered in my direct.

19  Q.   And as you also discussed in your direct, you had reason

20  for worry that the size of the effect you found using this

21  third method was biased upwards?

22  A.   Yes.

23  Q.   In other words, it was larger than it should be?

24  A.   Yes.

25  Q.   Is it your opinion that the Court should rely on the

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1   results from the close election discontinuity technique to

2   determine the size of any potential ballot order effect?

3   A.   I offered it as a robustness check, and I think that's the

4   spirit of which I would advise the Court to look at it.

5   Q.   So, in other words, the Court shouldn't look at the size of

6   the effect you found, simply look at it as a check against your

7   overall conclusion that a ballot order effect exists?

8   A.   I think that's fair, yes.

9   Q.   Okay.  Between the linear of regression model and the

10  matching observation, is there one or the other you think the

11  Court should rely on more?

12  A.   I don't have a strong preference between those.

13  Q.   It would be appropriate to rely on either method?

14  A.   I believe so.

15  Q.   Even though they use different techniques and reach

16  different coefficient sizes, different results?

17  A.   Yes.

18  Q.   Okay.  There is no one right method to try to find the

19  answer to this question, is there?

20  A.   I think that's right.  I think there are multiple ways to

21  approach this dataset.

22  Q.   Okay.  Now, your regression model is built to understand

23  party vote share, right?

24  A.   Yes.

25  Q.   And the hypothesis you were testing is that ballot order is
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1   something that affects party vote share?

2   A.   Yes.

3   Q.   You're using variables to control for factors that may

4   affect that party vote share?

5   A.   Yes.

6   Q.   And, in your report, I think you discussed why you used

7   these control variables.  You wanted to check that in counties

8   where there is a higher Republican vote share, it's due to

9   something more than just having more Republicans in that

10  county, right?

11  A.   Right.

12  Q.   So you use these control variables to control for trends in

13  partisanship; is that right?

14  A.   Yes.

15  Q.   When you use these control variables, it's important that

16  your actual data for the controls is accurate, right?

17  A.   Yes.

18  Q.   If your data is wrong, your results will be wrong?

19  A.   Depends on the -- what we're referring to, but, in general,

20  yes.  We'd like to measure without measurement error.

21  Q.   It's sort of a trash in, trash out situation, right?

22  A.   If I try to measure something and I measure it in

23  completely the wrong way, then the coefficient on that variable

24  will not be reliable.

25  Q.   So, for example, if -- if you used a variable for

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1    Republican party registration for a district of, let's say,

2    40 percent, it's important that the registered Republican share

3    variable for that district really is 40 percent, right?

4    A.   Yes.

5    Q.   Okay.  Now, your party registration variable was broken

6    down by county into Democratic share and Republican share,

7    right?

8    A.   Yes.

9    Q.   And you asserted in your reply report that party

10   registration, in your words, was the ideal control variable?

11   A.   In this -- in this case, yes.  This is the thing that we

12   really most worry about.

13   Q.   Because we're --

14   A.   The biggest confounder, yes.

15   Q.   Because we're focusing on looking at party share?

16   A.   Yes.

17   Q.   Okay.  And you also noted in your reply that one could make

18   a good case for using only party registration as the sole

19   control variable, right?

20   A.   Yes.

21   Q.   Now, using party registration as a control variable assumes

22   that a voter registered as a Democrat will always vote for the

23   Democratic candidate, doesn't it?

24   A.   Not always, just this is the -- this is the best county-

25   level indicator we have for Democratic -- for how Democratic

1  the county is, but I certainly don't need to assume that

2  everyone who has a D on their registration always votes for

3  Democrat.

4  Q.  How else, though, are you -- I mean, if you're using party

5  registration to control for the share of that party you expect

6  to see in the election, in a situation which, as you said,

7  party registration is your sole control variable, aren't you

8  assuming that people are voting with their party registration,

9  otherwise party registration is not going to tell you anything?

10  A.  Well, it's going to tell me something.  It's -- nothing is

11  ever perfect.  We have a secret ballot so we can't know exactly

12  what everyone is -- what everyone is doing.  We've got to take

13  the, unfortunately, aggregate data we have in this case, and

14  that's what we have to go on.

15  Q.  Well, for example, if you were only using party

16  registration as a sole control variable and it showed you that

17  the Republican share of registered voters in Maricopa County

18  was 80 percent, you would be expecting voting results to have a

19  Republican share of 80 percent, wouldn't you?

20  A.  Not necessarily.

21  Q.  Okay.

22  A.  I should add, there is other -- there is also a -- there

23  are control variables in the model for years, so it's -- these

24  capture the fact that support for the parties varies from one

25  year to another.  There are also control variables in the model

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1    for office, so that captures the fact that there might be

2    differences in partisan support from one -- from one office to

3    another.

4    Q.  Do you think it would have been a good idea for you to

5    simply use party registration as your sole control variable?

6    A.  Well, ultimately, it's not what I chose to do, but it's --

7    I didn't think it was a completely unreasonable alternative,

8    given the need in some of the models for reducing the amount of

9    noise in the model.

10   Q.  Are you aware that Arizona has a sizeable population that

11   is not registered as Democrat or Republican?

12   A.  Yes.

13   Q.  Do you know the percentage of voters in Arizona that are

14   registered as Independent or third-party voters?

15   A.  Not off the top of my head.  I know it's a substantial

16   share.

17   Q.  Did you account at all for voters that are registered as

18   Independent or third-party?

19   A.  No, I did not enter that into the regression.  I wouldn't

20   know what to expect, what -- I wouldn't have a hypothesis about

21   how that would help me explain Republican or Democratic vote

22   share.

23   Q.  So your model, even though party registration is one of

24   your largest control variables, does not look at all at the

25   sizeable population in Arizona that is registered as an

1    Independent or a third-party?

2    A.   Well, I'm looking at Republican registrants as a share of

3    total registrants, so that's what it is.

4    Q.   And in that instance, you're lumping together Democratic

5    registrants and Independent, third-party registrants together

6    as the other, right?

7    A.   That is true, yes.

8    Q.   And when you're trying to control for the Republican

9    registration -- I'm sorry, the Democratic registration, you're

10   lumping together Republicans and Independents as the other; is

11   that right?

12   A.   Yes.

13   Q.   But when you look at Republican vote share results, do you

14   know whether they include voters registered as Independents who

15   decided to vote for the Republican candidate?

16   A.   I'm assuming that there are -- every election there is some

17   fluctuation.  That's why the -- you know, the election results

18   are not just a reprint of the registration shares.  There are

19   people changing their minds.  I'm sure there are people who are

20   registered as Republicans who vote for Democrats, and vice

21   versa as well.

22   Q.   Your party registration variable is broken down by county,

23   right?

24   A.   Yes.

25   Q.   And by using county level party registration as a control,

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1    you're attempting to disentangle the impact of ballot order

2    from that of a county level partisanship, right?

3    A.   Yes.

4    Q.   But you do not have party registration broken down by

5    district, do you?

6    A.   No, unfortunately not.

7    Q.   And the district level results in your regression analysis

8    are state senate races and U.S. congressional house races?

9    A.   Yes.

10   Q.   And you use election-level results for those state senate

11   and U.S. congressional house races, right?

12   A.   I use county level election results.  All of the

13   observations in my -- in my dataset are counties.

14   Q.   Even the election results?

15   A.   Yes, everything is -- it's just a big collection of county-

16   level election results.  Some of them are statewide races.

17   Some of them are county level counts of district level races.

18   Q.   County level -- can you explain that to me?  County level

19   counts of district level races.

20   A.   Yes.  So if there is a -- if there is a -- if there is a

21   part of a district that is in Maricopa County, then that will

22   be -- that will -- that district will -- will be in the dataset

23   as Maricopa County.  And then in the column that identifies the

24   election result instead of saying, attorney general, it will

25   say district -- I can't remember the number right now -- but

1    the number of the district.  And then there would be a

2    corresponding county level registration share for all of

3    Maricopa.

4    Q.  And for that result -- let's take a district level election

5    result.  Let's say Maricopa District Number 1.  Your result for

6    Maricopa for the District Number 1 actual election result, is

7    the actual election result for voters in Maricopa County in

8    District Number 1, isn't it?

9    A.  Yes.

10   Q.  Okay.  So you're using district level election results,

11   right?

12   A.  The results are reported, broken down by county.  So the

13   fragment of the district that is in the county is what is

14   reported, so it's not the entire district level result, it's

15   the -- part of the -- part of the district that was in Maricopa

16   County that is going to enter the dataset under Maricopa

17   County.

18   Q.  Okay.  I understand that.

19          Now, when you are applying your party registration

20   share variable to these district level races, you're using a

21   county level party registration share that might differ

22   significantly from the district level party share, right?

23   A.  Yes, exactly.  That's -- I believe I expressed reservations

24   about that in the report, and that's why I conducted analysis

25   in which I dropped all the districted races.

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1   Q.   And we will get there.

2   A.   Okay.

3   Q.   I promise you.

4        So, for example, if you have a county level -- I'll

5   give you a hypothetical to make sure that this is -- that this

6   is clear.

7        You have a county level registered Democrat share in

8   Maricopa County of 36 percent, even though within Maricopa

9   County there are districts with a much higher share of

10  registered Democrats in them, right?  Let's just take that as a

11  hypothetical.

12  A.   Sure.

13  Q.   Because for every single race within Maricopa County,

14  you're using that same county level district share, right?

15  County level --

16  A.   That's right.

17  Q.   -- party registration.

18       So, in that situation, you might see a district level

19  race within Maricopa County in which a Democrat wins 75 percent

20  of the vote, for example, it could be a Phoenix election, but

21  you're still applying that same county level 36 percent

22  registered Democrat share to that district race, aren't you?

23  A.   Yes, because I wasn't able to disaggregate the registration

24  by district, that's correct.

25  Q.   Okay.  So a wealthy excerpt of Maricopa County, your model

1    is going to assume the Democratic voter registration share is

2    36 percent of registered voters, and in a district encompassing

3    downtown Phoenix, your model will also assume that the

4    Democratic share is 36 percent of registered voters, right?

5    A.   That's right.

6    Q.   Isn't there a problem with trying to explain a result in

7    Phoenix using the same data that is used to explain a result in

8    an excerpt of Maricopa County?

9    A.   It is -- definitely introduces measurement error to that --

10   to the registration variable for -- for those districted races.

11   This is why I was -- throughout the period of writing the

12   report, I was -- I was kind of on the fence about whether to

13   include the districted races or not exactly because of this

14   measurement error problem.  That's why I reported both -- both

15   with and without these districted races.  I didn't see a way

16   around this problem, other than dropping them.

17          The other thing that helps is we do have some other --

18   some of these other demographics, but those are also measured

19   at the county level, so it's -- those -- those are -- those

20   analyses that include the district results have -- they all

21   have that -- that bit of measurement error for some of the

22   observations.

23   Q.   And, as you said, using the control demographic variables

24   doesn't help because those are also measured at the county

25   level?

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1    A.   That's right.

2    Q.   Right?

3         So, at the end of the day, you're not able to

4    disentangle the impact of ballot order from district level

5    partisanship, right?

6    A.   I believe that's just restating what we've been -- what

7    we've been agreeing on.

8    Q.   Okay.  Now, just so we're clear, an example of your control

9    variable -- another control variable that's applied on a county

10   level basis would be population density, right?

11   A.   Yes.

12   Q.   So an analysis of voter share and election outcomes is

13   influenced by population density, right?

14   A.   Potentially, maybe not so much within Maricopa County, but

15   I think across Arizona as a whole that is the case.

16   Q.   This is a lot of your scholarly work, right?

17   A.   Yes.  It's something I'm interested in, right.

18   Q.   It's an interesting topic.

19        But I think what you have concluded is that population

20   density can impact vote shares, because dense places are

21   generally more likely to vote for Democrats, sparse places are

22   more likely to vote for Republicans.  Is that accurate on sort

23   of a 10,000-foot level?

24   A.   Yes.  Although Arizona gets interesting because of the

25   Native American population.

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 1   Q.  But, for example, looking again at Maricopa County, when

 2   you are doing your regression analysis, you're using the same

 3   standard population density variable regardless of whether the

 4   election is taking place in Phoenix or whether it's taking

 5   place in an excerpt of Maricopa County, right?

 6   A.  That's correct when we look at the different district

 7   observations within Maricopa County.

 8   Q.  And it's actually the same with your Native American share

 9   variable, right?  You use the same Native American share

10   variable for a county -- for every race within a particular

11   county even though a Native American share is going to vary

12   over the geographic -- the geography of the county?

13   A.  Yeah.  This is, again -- I think everything we're talking

14   about right now is really fairly Maricopa specific, but I think

15   that's -- that's true.

16   Q.  Well, why do you say it's Maricopa specific?

17   A.  The counties are -- are -- the mapping of counties and

18   districts is -- is less jagged in other parts of the -- the

19   counties fit within congressional districts more -- more easily

20   in other places, but they'll be some versions of this in other

21   districts as well.  I just think that my recollection is that

22   this problem is a bit larger in Maricopa than elsewhere.

23   Q.  And when you say this problem, it's the problem of there

24   being variation in the variables of interest within a county

25   that you're looking at?
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 1   A.   I wouldn't say a problem.   I would characterize it as a

 2   measurement error.

 3   Q.   A measurement error?

 4   A.   Yes.

 5   Q.   Now, as we have been discussing, you're aware that

 6   congressional districts can cross county lines?

 7   A.   Yes.

 8   Q.   And you're aware that state senate districts can cross

 9   county lines, right?

10   A.   Yes.

11   Q.   And when you're trying to measure a congressional district

12   that spans several counties, are you running the regression as

13   if it's several separate elections using the Republican and

14   Democratic vote shares for a portion of the district in each

15   county?

16   A.   The part of the district that is in -- that is in Navajo

17   County, the votes for that will be -- will be the -- the

18   dependent variable in this case and will measure ballot order

19   at the county in this case.   And the control variables that

20   we're discussing, those will be measured also at the level of

21   the county.   So the county brings together these different --

22   these different bits of information.   That was the only way to

23   kind of knit this dataset together.

24   Q.   Okay.   So, for example, we've been talking about the 1st

25   Congressional District.   Are you aware that the 1st
```

1 | Congressional District spans 11 counties?

2 | A.  I would have to take a look at the first district, but I --

3 | that sounds plausible.

4 | MS. FRIDAY:  With the Court's permission, I would like

5 | to use a demonstrative to show some congressional districts

6 | across the state.

7 | THE COURT:  You may.

8 | MS. FRIDAY:  Thank you.

9 | BY MS. FRIDAY:

10 | Q.  Now, I'm guessing you can't see this, can you, or can you?

11 | Should I bring it over here?

12 | A.  Yeah, maybe, if it's not too much trouble.

13 | THE COURT:  Move it closer to the jury box.  You're

14 | going to have to tilt it a little.

15 | THE WITNESS:  Turn it this way a little bit.

16 | MS. FRIDAY:  Do you mind, Your Honor, if I approach?

17 | THE COURT:  No.

18 | MS. FRIDAY:  Thank you.

19 | BY MS. FRIDAY:

20 | Q.  Now, on the map here looking at Congressional District 1,

21 | you can see that it encompasses Coconino, Navajo, Apache,

22 | Greenlee, Graham, Pinal, Gila, Mohave, a little corner of

23 | Yavapai, a little corner of Maricopa, and a little corner of

24 | Pima.

25 | Do you see that?

1   A.   Yes.

2           MS. KHANNA:   Your Honor, with the Court's permission,

3   may I also stand so I can see?

4           THE COURT:   Yes.   Yes.

5           MS. FRIDAY:   My apologies.

6   BY MS. FRIDAY:

7   Q.   Now, did your regression analysis treat the district race

8   for U.S. Congressional District 1 as 11 separate elections in

9   11 separate counties?

10  A.   Yes.

11  Q.   Is that an accurate working assumption to be going by?   In

12  other words, is it accurate to assume that the Republican

13  candidate, or the Democratic candidate for that matter, acted

14  as a different candidate in Coconino County than in Maricopa

15  County?

16  A.   Well, we're analyzing the vote shares in those different

17  counties and we have party registration data at those counties,

18  so this is -- this is the way we can bring those datasets

19  together.

20  Q.   Now, we've been talking about the Native American share of

21  the population.   I think you've testified you're roughly

22  familiar with the Arizona demographics.   Do you know where the

23  Native American population in Arizona is concentrated?

24  A.   Much of it is in the northeast corner, but there are some

25  other -- some other pockets in some other places as well.

1    Q.   Okay.   And so, for example, Apache County has a large

2    Native American population, right?

3    A.   Yes.

4    Q.   And Coconino County the same, right?

5    A.   Yes.

6    Q.   And -- and I think you -- we've already established that

7    you were not able to get the demographic breakdowns within each

8    of the counties, right, for a particular congressional races;

9    is that right?

10            So, for example, you weren't able to get the

11   demographic breakdown for the portion of U.S. District 1 that's

12   located in Maricopa County?

13   A.   That's right.

14   Q.   Do you, Dr. Rodden, know, roughly, the share of the

15   population of Maricopa County that is Native American?

16   A.   No.   I'd have to guess.

17   Q.   Can we agree it's probably pretty low, less than 10

18   percent?

19   A.   Less than 10 percent, yes.

20   Q.   Okay.   Let me ask you a hypothetical question.

21            Let's assume that the Native American share of the

22   population of Maricopa County is 2 percent.   Looking at the

23   map, you can see the -- the slice of Maricopa County that's in

24   District 1, right?   This little slice right here.

25   A.   Yes.

1    Q.  And are you aware that the slice of District 1 that's in

2    Maricopa County is the Gila River Indian reservation?

3    A.  I was not, no.

4    Q.  Do you know what percentage of the Gila River Indian

5    reservation is Native American?

6    A.  I assume it's high.

7    Q.  We can agree it's probably really high.  Higher than 2

8    percent?

9    A.  Yes.

10   Q.  Higher than 10 percent?

11   A.  Probably.

12   Q.  Your regression analysis, though, is going to use the

13   Maricopa County-wide average, which for purposes of this

14   hypothetical we're assuming is 2 percent, could be 10 percent,

15   for the portion of the election in the 1st District that's held

16   there, isn't it?

17   A.  Yes.

18   Q.  So your regression analysis is going to show that the Gila

19   River Indian reservation in the 1st District is only 2 percent

20   Native American?

21   A.  I would have to check the dataset, but potentially.

22   Q.  How do Native American voters, on average, vote between

23   Republicans and Democrats?

24   A.  Democratic vote share is high.

25   Q.  Right.  That's why you included them as a control variable,

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1   right?

2   A.  Yes.

3   Q.  And I think you testified, in particular, that the Native

4   American variable was especially important in Arizona?

5   A.  Yes.

6   Q.  But your regression analysis is using a Native American

7   share that, in reality, is much lower than the population it's

8   trying to measure, isn't it?

9   A.  In that particular instance, yes.

10  Q.  So your control in that instance is inaccurate, right?

11  A.  This is -- there is measurement error on the -- the share

12  of -- the segment of the dataset that involves districts in

13  these corners of districts where we have these fragments, yes,

14  there would be measurement error like that.  And that was

15  something I was concerned with and, I believe, mentioned in the

16  report.

17  Q.  So as another example, if we look at Pima County here on

18  the bottom --

19  A.  Uh-huh.

20  Q.  -- there is a portion of Pima County that is in the -- so

21  Pima County itself includes the 1st, 2nd, and 3rd Congressional

22  Districts.  I don't know if you can see that.  I'll try to

23  point it out.

24          So we have 1st, 2nd, and then 3rd.

25  A.  Okay.

1    Q.  Are you aware that the portion of Pima County that is in

2    the 3rd District is more Democratic than the portion that is in

3    the 2nd District?

4    A.  I'm having trouble seeing the numbers.  But, no, I'm not

5    aware of -- of how that district line overlaps with

6    partisanship without seeing it.

7    Q.  But when your regression analysis is trying to control for

8    party registration in Pima County, it's going to assume that

9    the 2nd and 3rd Districts have the same share of registered

10   Republicans, right?

11   A.  Right.

12   Q.  Even though we know that that can't possibly be right?

13   A.  Right.

14   Q.  This is another situation where, because your inputs aren't

15   right, your results aren't right either, right?

16   A.  This is -- this is a case where there is -- there is

17   measurement error in the -- in the control variable.  This is

18   not -- again, we should keep in mind this is about how we're

19   measuring the control variables.  This is not how we're

20   measuring the dependent variable or the key independent

21   variable.  But, yeah, we have -- we have some noise that's

22   added here from measurement error on these -- on these control

23   variables.

24   Q.  Well, I don't think it's noise.  Your results are not

25   right, right?  I mean, in Pima County, for example, do you know

1    that your result for District 1, the U.S. congressional

2    election in District 1, showed that the Republican had actually

3    won that election?

4    A.   I'm not sure what you mean that I showed the Republican won

5    the election.

6    Q.   Well, let me take a step back.

7         Are you aware that Democrat Tom O'Halleran won the

8    seat for House District 1?

9    A.   Yes.

10   Q.   And are you aware that your data for the portion of the

11   District 1 race in Pima County showed that, in fact, the

12   Republicans had a higher vote chair than Democrats?

13   A.   If there -- if there are problems with the Secretary of

14   State's data, I'm not aware of that, but it is the -- it is the

15   part of the district that is in Pima County that is the unit of

16   analysis here.  And if the vote chair for the Republican party

17   was higher in that -- in that part of the district, then

18   that's -- that wouldn't be -- that's not wrong unless the --

19   unless the -- unless the data reported on the Web site are

20   wrong.

21   Q.   But isn't your regression analysis using that election

22   race, that Pima County District 1 election race, as one of your

23   observations, one of your independent observations?

24   A.   The -- the vote share of the Democratic and Republican

25   candidates are the observations.  And the ballot order is set

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1  at the county level, so I can't really analyze ballot order if

2  I aggregate the entire district, because there is different

3  ballot order assignment in different parts of the district.

4  So, to me, this is part of what allows us to see something in

5  the data is that we can actually see different ballot order,

6  even within the same district, perhaps, and different vote

7  shares.  So the county level kind of has to be the unit of

8  analysis, so we're kind of stuck with this sort of measurement

9  error if we want to use the districted races.

10          So either we include the districted races and we're

11  stuck with exactly this measurement error that you're

12  describing, or we have to throw them out.  And I've pursued

13  both strategies in the report.

14  Q.  Are you confident in the district level results that you

15  have given the measurement errors that we've been discussing?

16  A.  I'm less confident in those than in the -- than in the --

17  than in the statewide races, but I still felt that they were

18  valuable enough to include, because it seemed to me that simply

19  ignoring that we have these elections and that districted races

20  existed was also not a very good -- was not a very good

21  strategy.  So including them in part of the report and laying

22  out all of the -- all of the possibilities seemed like the best

23  way forward.

24  Q.  So all but two of your regression analyses include district

25  level data, right?

1    A.   The regression analyses, um --

2    Q.   You only have two that are --

3    A.   I believe that's right, yes.   I was -- I laid out those --

4    that as one of the robustness checks.   And so it would have

5    become very cumbersome to run every robustness check both with

6    and without the district races.   That was something I did look

7    at extensively and these results were not changing for me, so

8    that was, of all the robustness checks that I considered,

9    including the appendix, which I think we can agree were fairly

10    extensive, I had to draw the line somewhere.   And that was

11    about where I drew it.

12    Q.   Okay.   So, to be clear, only two of your regression

13    analyses are statewide, right?

14    A.   I believe that's right.

15    Q.   Okay.   The rest of them include this district level

16    analysis that has the measurement error we've been discussing?

17    A.   Yes.

18    Q.   Okay.   I want to ask you a few questions about the code you

19    used in your regressions.

20         Now, you used a program that I think we're calling

21    Stata, or Stata?

22    A.   Yes.

23    Q.   And Stata has what is called a "do" file that shows a

24    record of your commands in Stata, right?

25    A.   Yes.

1  Q.  And this allows someone else coming in to review the steps

2  that you took in your regression analysis, right?

3  A.  Yes.

4  Q.  I want to ask you about some of those commands that are in

5  the Stata "do" file.

6       Now, the reg command means regression analysis, right?

7  A.  Yes.

8  Q.  And R share means Republican share?

9  A.  Yes.

10 Q.  And R first means that the Republican candidate was listed

11 first?

12 A.  Yes.

13 Q.  And INC underscore R means the Republican was -- the

14 incumbent was Republican?

15 A.  That's a variable that is zero if there is no incumbent

16 running.  It's a one if a Republican incumbent is running.  And

17 it's negative one if a Democrat incumbent is running.

18 Q.  Okay.  Thank you for that clarification.

19       And the command reg underscore, share, underscore,

20 rep, means Republican registration share, right?

21 A.  Yes.

22 Q.  That's the percent or the share of voters that are

23 registered Republicans?

24 A.  Yes.

25 Q.  Okay.  And in your basic model, your first regression

1   analysis command was to regress on the Republican share with

2   the Republican candidate listed first, right?

3   A.   Yes.

4   Q.   So that would be a command of reg, R share, R first,

5   reg_share_rep, right?

6   A.   Yes.

7   Q.   And then you did the same analysis but for Democrats,

8   right?

9   A.   Yes.

10  Q.   And there we're really just a replacing the R with a D.

11  And so, for example, D share means Democrat share, right?

12  A.   Yes.

13  Q.   D first means the Democratic candidate was listed first?

14  A.   Yes.

15  Q.   And reg_share_dem means the portion of voters that are

16  registered as Democrats, right?

17  A.   Yes.

18  Q.   So when you were doing the analysis for Democrats, your

19  command was reg, D share, D first, reg_share_dem, right?

20  A.   Yes.

21  Q.   And it's important to replace the Republican values with

22  the Democratic values, because when you're trying to explain

23  Democratic vote share, it's important to control for the

24  Democratic share of the electorate, right?

25  A.   Yes.

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1    Q.  Okay.  Now, we talked a little bit about -- on direct you
2    talked a little bit about dropping the districts, which means
3    dropping district races and looking only at statewide races?
4    A.  Yes.
5    Q.  Right?
6         And that uses the dropped districted command, right?
7    A.  We're getting a little too far into the weeds.  I don't
8    recall exactly how the -- how the code was -- was written.
9    Q.  Okay.  I would like to refresh your memory, if I could,
10   with the copy of your analysis.
11        And that's DX 9.
12        THE COURT:  What are we looking at?
13        MS. FRIDAY:  This is Dr. Rodden's "do" file in his
14   Stata and has been marked as DX 9.  I believe it would be
15   Exhibit 107.
16        MR. FRANKS:  Can you switch the monitor, please?
17        COURTROOM DEPUTY:  Yes.  One minute.
18   BY MS. FRIDAY:
19   Q.  Okay.  Dr. Rodden, you have been handed what has been
20   marked Exhibit 107.  Would you please take a moment and look
21   through this exhibit.
22   A.  Yes.
23   Q.  Okay.  Is this your "do" file for your analysis that you
24   did in this case?
25   A.  Yes.
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1           MS. FRIDAY:  I offer Exhibit 107 into evidence.

2           THE COURT:  It may be admitted.

3           MS. FRIDAY:  Thank you.

4    BY MS. FRIDAY:

5    Q.  And we were -- if you turn to page 8, please, Dr. Rodden.

6           At the bottom of the page there is two asterisks and

7    then a basic model.

8           Do you see that?

9    A.  Yes.

10   Q.  And this is what we have been discussing, right?  This is

11   your first regression analysis command and your basic model in

12   which you are regressing on the Republican share, right?

13   A.  Yes.

14   Q.  And then turning to the next page on page 9, at the top it

15   says, with two asterisks, now with Democrats as DV.

16          DV means dependent variable; is that right?

17   A.  Yes.

18   Q.  And we see the same commands, reg, D share, D first with

19   the incumbent, and reg_share_dem, right?

20   A.  Yes.

21   Q.  Okay.  Now, going a little bit further down on page 9, do

22   you see the section that has two asterisks -- two asterisks,

23   and it says dropped districted?

24   A.  Yes.

25   Q.  And this is what we were talking about in terms of your --

1    you use this command in order to drop district races and look

2    only at statewide races, right?

3    A.   Yes.

4    Q.   Okay.  And there, as before, you did the Republican

5    analysis first and then the Democratic analysis, right?

6    A.   Yes.

7    Q.   So the command for the Republican analysis is the same as

8    before, right, reg, R share, R first, inc_r, and reg_share_rep,

9    right?

10   A.   Yes.

11   Q.   But your command for the Democratic analysis was reg, D

12   share, D first, incumbent, inc_r, reg_share_rep, right?

13   A.   It looks like, yeah, I see a mistake there in the -- in the

14   Democratic regression.

15   Q.   Right.  So in the Democratic regression analysis, you did

16   not switch two of the variables to the Democratic party

17   registration and the Democratic incumbent, did you?

18   A.   Well, first of all, the incumbent variable is -- it really

19   makes no difference.  It's just turning the one into a negative

20   one, so it's just the interpretation changes on that variable.

21         The reg_share_rep, that is -- it's -- we're putting it

22   -- we're controlling for the Republican registration share

23   rather than the Democratic registration share.  So these things

24   are highly correlated, we're just going to get a negative

25   coefficient rather than a positive coefficient.

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1    Q.  So was this an error?

2    A.  It's -- I believe it was probably an error when I put

3    together the -- put together the code to turn over.  I would

4    have to look in the table to see if this error came out in the

5    -- in the -- in the -- in the actual report.

6    Q.  Okay.  Because you didn't mean to use the registered share

7    of Republicans when you were trying to run an analysis

8    involving Democrats, right?

9    A.  Yes.  I mean, fortunately, as mistakes go, this is one that

10   I -- I think is not consequential, but I had intended for that

11   to be reg_share_dem in that -- in that second regression.

12   Q.  Well, do you know one way or another whether this error

13   impacted your finding, that there is a statistically

14   significant effect, valid effect?

15   A.  Well, it certainly wouldn't have affected my -- my finding

16   about Republicans because we're talking about the regression

17   for Democrats.  It would -- I imagine if we -- if we run it

18   both ways, we will see that the coefficient for ballot order --

19   I can say this because I've run all these regressions a million

20   times and stared at them -- that's -- the coefficient for the

21   ballot order for -- for D first here, it would be -- it would

22   shock me if it changed much at all moving from controlling for

23   the Democratic registration share to controlling for the

24   Republican registration share.  This is not something that

25   would -- that I would imagine would possibly change the

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1    coefficient on Democrats listed first.  Because, again, these

2    two things are highly correlated, I can't remember how

3    correlated, but they're capturing the same thing, how

4    Democratic is the county.

5    Q.   Okay.  So you believe that there wouldn't be much of a

6    change if you had actually inserted the correct variable there,

7    but we don't know one way or another, do we?

8    A.   Well, we would be able to know if we could look in my --

9    look in my table in the appendix.

10   Q.   Okay.  Could you direct me to where you're looking, please.

11   A.   I'm just checking to see if, in fact, this mistake made its

12   way into the appendix or not.

13          I'm trying to remember how I named these -- these

14   tables.

15          Okay.  I believe it's when we get to the ones that say

16   restricted sample.  So I think we can agree that the Republican

17   regression is not -- there is no problem there.

18          And then we have the Republican regression that breaks

19   down by open seats.

20          So then we come to -- yes, Democrats as a share of

21   registrants, the coefficient is .414.  I'm talking about table

22   A 11.  So -- and the coefficient for incumbent is also

23   positive, so the mistake did not make its way into the -- into

24   the table.  This was a mistake that seems to have occurred when

25   I prepared the code to -- to send over to counsel.

1  Q.  Okay.  So --

2  A.  And I would be happy to correct that.

3  Q.  Okay.  So what you believe, based on looking at your tables

4  in your initial report, is that the error that we've been

5  discussing was not made in your analysis in your report, it was

6  simply an error that you made when turning over the data to the

7  secretary?

8  A.  Not the data, but the code.  It appears that I -- that I --

9  that I made a mistake when I was copying the code that -- the

10  final code that I used in pasting it over to the "do" file to

11  produce a final file, that there was a mistake made there.

12  Q.  Okay.  If we could --

13  A.  If it was -- if it was -- just to be clear, I just want to

14  make sure everyone understands.  If I had done -- if this was,

15  in fact, what was here, the coefficient would be negative for

16  Democrats as a share of registrants.  Because if it was

17  actually Republicans as a share of registrants, I would think

18  that would be a negative coefficient, that as we get more

19  Republicans -- more Republican registrants, we would see that

20  the Democratic vote share would go down, so that's how I know

21  the mistake didn't make its way into the table.

22  Q.  Okay.  If we can turn to page 10, please, of Exhibit 107.

23          Now, you also studied the effect of ballot orders in

24  top ballot races compared to down ballot races, right?

25  A.  Yes.

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 1    Q.   I think you testified about that on your direct.

 2    A.   Yes.

 3    Q.   And your goal, basically, was to determine whether the

 4    ballot order effect was stronger in one or the other of top

 5    ballot or down ballot races, right?

 6    A.   Yes.

 7    Q.   Now, on page 10, starting in the middle of the page, you

 8    have four regressions listed here that study top ballot versus

 9    down ballot effects, right?

10    A.   Yes.

11    Q.   And the first and third regressions look at the Democratic

12    share, right?

13    A.   Yes.

14    Q.   And we know that because it says reg D share, to start the

15    first and third regressions?

16    A.   Yes.

17    Q.   And the second and fourth regressions look at Republican

18    share.  And we know that because it -- they start with the

19    command reg R share, right?

20    A.   Yes.

21    Q.   But don't all four of these analyses regress vote share on

22    the Democratic share of registered voters as shown by the

23    reg_share_dem command in each regression?

24              THE COURT:  You're at page 10, correct?

25              MS. FRIDAY:  Yes, Your Honor.  I'm looking in the
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1   middle of the page, the --

2               If you can -- thank you, Rob -- blow that up, please.

3               Those are the four regressions.

4               THE COURT:  You're looking at -- sir, you're looking

5   at page 10 of DX 9 which is on the screen.

6               THE WITNESS:  Yes.  It's just, again, a situation

7   where I'm -- it looks like a similar mistake was made in the --

8   in the -- in the code that was turned over.  And I just wanted

9   to look at the tables in the -- in the report to see if, again,

10  whether it was an actual mistake in the analysis or a mistake

11  in the -- in the code that was turned over.

12              And it would appear that, again, the coefficients are

13  all -- are all exactly what one would expect.  So there was --

14  again, I apologize, it looks like the code that I -- that I

15  turned over does not have the right -- the right control

16  variable typed in there.

17  BY MS. FRIDAY:

18  Q.  And can you tell me, Dr. Rodden, what you were looking at

19  to reach your conclusion that in your actual analysis you used

20  the correct code variable?  You were looking at one of the

21  tables in your exhibit.

22  A.  Yes.  Again, I'm looking at -- at the tables -- the only

23  thing that I believe is at issue here is I appear in the code

24  to have controlled in a -- in a regression for Democrats, to

25  have controlled for Republican registration share, which had I

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 1   done that, I still don't think would affect the -- the
 2   coefficient of interest, but I'm trying to verify whether I
 3   had, in fact, done that.  And I can see that the -- the listing
 4   of -- the listing of results here --
 5              THE COURT:  And the question is what are you looking
 6   at?
 7              THE WITNESS:  Yes.  I'm -- I'm looking at table -- I'm
 8   trying to make -- I want to make sure I tell the right one.
 9              We are now looking at --
10              THE COURT:  What page of Exhibit 3 are you looking at?
11              THE WITNESS:  I am still trying to find it.
12              There are so many tables in the appendix.  I
13   apologize.
14   BY MS. FRIDAY:
15   Q.  Well, I don't see a table that's discussing top ballot and
16   down ballot.
17   A.  I'm not finding it either, so it's possible that there was
18   a -- that I neglected to put this -- to put this in the -- to
19   put this table in the appendix.
20   Q.  So you can't say one way or another whether you made this
21   error in your analysis, right?
22   A.  I would have to go -- I would have to go back and open my
23   computer and take a look.
24   Q.  Your "do" file, which is your list of commands, indicates
25   that you did make the error, but you don't know one way or
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1  another?

2  A.  That's correct.

3  Q.  Okay.  Now I'd like to shift topics a little bit.

4        You have read Dr. Krosnick's expert report in this

5  matter?

6  A.  In a previous case, but not in -- not in this -- not in

7  this case.

8  Q.  You haven't read his reports in this case?

9  A.  No.

10  Q.  Okay.  Do you have any -- well, let me represent to you

11  that Dr. Krosnick has opined that the ballot order effect is

12  partially explained due to lack of voter information at the

13  ballot box.

14        Do you agree with that opinion based on your review of

15  the literature in your experience with this effect?

16        MS. KHANNA:  Objection, Your Honor.  I'm going to

17  object as beyond the scope of his report and his direct

18  examination, to the extent he's being asked to opine on another

19  expert's report.

20        THE COURT:  Sustained.

21  BY MS. FRIDAY:

22  Q.  Did you examine whether the ballot order effect exists in

23  Arizona with mail-in ballots?

24  A.  No.

25  Q.  Did you examine whether the ballot order effect in Arizona

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1  differed based on whether the vote was at the precinct or done

2  by early balloting?

3  A.  No.

4  Q.  Do you understand that there is a sizeable portion of

5  voters in Arizona that vote by mail?

6  A.  I do.

7  Q.  But your model does not examine whether the ballot order

8  effect would be smaller when those mail-in ballots are used?

9  A.  No.

10  Q.  You don't know one way or another?

11  A.  That's correct.

12  Q.  Now, looking at the question of the control variables that

13  you used, you claimed in your report that you experimented with

14  various control variables, and only included those that were,

15  in your view, statistically significant.  Is that accurate?

16  A.  Yes.

17  Q.  And on page 18 of your initial report, you listed the

18  various control variables that you downloaded from the U.S.

19  Census to experiment with?

20  A.  Yes.

21  Q.  And I believe there you listed seven variables, which were

22  rents share, poverty share, foreign born share, Hispanic share,

23  white share, African American share, and Native American share.

24         Do you see that?

25         THE COURT:  Where are you in the exhibit?

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 1              MS. FRIDAY:  I apologize, Your Honor.

 2              Could we put up please, Exhibit 3, page 18.

 3              THE COURT:  Eighteen?

 4              MS. FRIDAY:  Yes, Your Honor.

 5    BY MS. FRIDAY:

 6    Q.  And this is the last paragraph on the page.  Starting with,

 7    I have also collected a good -- yes.

 8              These are the variable -- variables that you

 9    downloaded from the U.S. Census, at least that you listed here,

10    right?

11    A.  Yes.

12    Q.  And I think, although you didn't list them here on page 18,

13    you also downloaded --

14              THE COURT:  Let me stop you here, because I'm not --

15    I'm not finding that paragraph on my Exhibit 3, page 18.  In my

16    exhibit book it's filed Document 15-1, page 19, and so just be

17    mindful that we're --

18              MS. FRIDAY:  I'm one page behind you.

19              THE COURT:  Okay.  So on my exhibit or -- well, my --

20    what was filed as Plaintiff's Exhibit 3, it is Document 15-1,

21    page 19.

22              All right.  Go forward.

23              MS. FRIDAY:  Thank you, Your Honor.

24    BY MS. FRIDAY:

25    Q.  Did you use other variables that are -- did you download
```

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1  from the census other variables that are not listed here?

2  A.  I don't think so.

3  Q.  Did you download the variable for the 18 to 30 share?

4  A.  I'm sorry.  Where is the list?

5          I believe I may have downloaded that later, after --

6  after Mr. Trende suggested that I use it.

7  Q.  Okay.

8  A.  I know that I eventually had it, but I can't remember when

9  I -- when I collected that one.

10  Q.  I apologize.  I didn't mean to interrupt you.

11          And, similarly, with the data regarding the 65 and

12  older share, is that something you downloaded at the very

13  beginning or only later?

14  A.  At the beginning.

15  Q.  And I think you had -- had actually said earlier that you

16  included a variable for the senior citizen population in your

17  analysis on your direct?

18  A.  Yes.  I was not looking directly at the -- at the tables at

19  that time.  I know that was -- that was just going from my

20  recollection.

21  Q.  Could you look at the tables and confirm that you didn't

22  actually include a variable for the senior citizen population.

23  A.  I'm sorry.  I may have been confusing the two reports at

24  that point.  Let me just clarify for the Court what was

25  included if in the initial report and what was added later.

1           Yes.  It was population density, Native American

2    share, and renter share.

3    Q.  Those were the variables that you opted to use, but I was

4    asking which ones you downloaded from the U.S. Census as a

5    starting matter to choose from and to run your experiments on?

6    A.  Yes.  I know there were others.  We can look in the -- for

7    a full list, we can look at my second report, so Exhibit 4,

8    page 27, we can see a list of the variables that I collected.

9    They include Native American share, renter share, poverty

10   share, foreign born share, Hispanic share, age 18 to 30 share,

11   age 65-plus share.  And if we turn to the next page, there is

12   African American share as well.

13   Q.  Okay.  The census bureau makes many other variables

14   available, doesn't it?

15   A.  Yes.

16   Q.  So, for example, median income?

17   A.  Yes.  And I believe I also -- that household income, or

18   median income, I can't remember, I may have had some of those.

19   I had poverty share.  I'm sorry, I don't remember which.  There

20   is several income variables one could choose from.

21   Q.  Or education, for an example, you could download

22   information regarding the share of college educated voters or

23   the share of high school educated voters?

24   A.  Yes.

25   Q.  Your report doesn't provide any explanation for why you

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 1  downloaded the variables that you did, does it?
 2  A.   These are the variables that, at the time that I was
 3  collecting the data, thinking about the literature and thinking
 4  about my own -- my own understanding of -- of possible -- my
 5  own thoughts about what would be good control variables, these
 6  are the ones that I thought of.
 7  Q.   Okay.  And you included African American share as a
 8  potentially good control variable, right?
 9  A.   I included all of the race variables.
10  Q.   And did you -- I think -- I believe you testified on your
11  direct that you experimented with using these different race
12  variables in your data, with using Hispanic status and with
13  using African American status; is that right?
14  A.   Yes.  I wanted to be careful not to include several highly
15  correlated race variables.  That's a problem one always runs
16  into.  Then everything becomes meaningless if we put them all
17  in there.
18  Q.   But you didn't actually include in your report the results
19  of those experiments, right?
20  A.   No.  There was no reason to.
21  Q.   And you state that these variables are highly correlated,
22  but your report actually does not include the amount of -- or
23  value for correlation between these variables, right?
24  A.   No.
25  Q.   Do you know sitting here what the amount of correlation
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1  between African American share and population density is?

2  A.  Something like .76 or 77.

3  Q.  And what about the correlation between African American

4  share and Hispanic share?

5  A.  That I don't recall.

6  Q.  And what about the correlation between African American

7  share and age?

8  A.  I don't recall.

9  Q.  Do you recall running all of the analyses to see exactly

10  what the correlation values were for these variables?

11  A.  No.

12  Q.  Did you do that analysis or did you just use your

13  assumption that these variables were highly correlated?

14  A.  When -- when I estimated regressions and I started to see

15  the signs of -- of multicollinearity, when I saw coefficients

16  that didn't make sense and when I saw variables that were not

17  statistically significant, then I would probe further.  I did

18  not -- I did not analyze the correlations between all of the

19  variables at one -- at one time, at least I don't recall doing

20  that.

21        But the point here was to -- these are control

22  variables.  The point is not to search for the perfect model.

23  There are many different approaches.  And once one tries lots

24  of models with lots of variables and sees the result not

25  changing, it -- it becomes a question of trying to -- trying to

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1 include the variables that are -- that are most important, that

2 help you -- help you explain the variation and the outcome the

3 best.  And that's how I went about it.

4 Q.  But you didn't actually include the results of all those

5 experiments and all those runs in your report, did you?  We

6 just have to take your word for it that you did these runs and

7 they resulted in what, in your view, was a multicollinearity?

8 A.  We don't have to take my word for it that the results are

9 unaffected by including these variables, because we have

10 appendix table A 1 in my second report that includes all of

11 these variables, so we can dispense with this entire set of --

12 set of questions and just examine that.

13   It's -- it's -- the main -- the main question here, in

14 thinking about which variables to include, the question is --

15 is -- is in terms of robustness and whether we believe the

16 result, has to do with whether the result is affected by

17 including these various additional variables, many of which are

18 not statistically significant when they're all entered

19 together.  So if we enter all of them together, we start

20 getting lots of things that are correlated.

21 Q.  But you -- other than including results for all of the

22 control variables at the same time, you didn't include any

23 results from your experiments with controlling one variable

24 over the other, right?

25 A.  That's not something I would ever typically do in composing

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1    a paper for a journal, and it's not something I considered

2    doing here for the court either.

3    Q.   Okay.  And you chose rent share as one of your control

4    variables, right?

5    A.   Yes.

6    Q.   Can you cite to any articles that establish a correlation

7    between rent share and party status?

8    A.   Well, I have a couple of graduate students who are working

9    on the question of home ownership and voting.  There are --

10   there is a fairly large -- a large literature in economics

11   looking at home ownership and looking at political battles

12   between homeowners and renters.  I believe there is a paper in

13   economics by Epple and Romer that is -- is examining --

14   examining these political battles between -- between renters

15   and owners.  But it's something that just in my own research

16   I've noticed is a really powerful predictor of voting behavior.

17   Especially in a place like -- like Arizona where renting versus

18   owning, it captures something beyond what we might capture with

19   population density.  The neighborhoods that have a lot of

20   renters tend to be -- tend to be people who have moved more

21   recently, tends to be a younger population, and it's -- it's --

22   I believe it's probably also correlated with age.  So this is

23   why, when we start throwing all these variables together, they

24   may not be as -- it's not as clear what the impact is.  But, in

25   my own experience, the share of the population who rents is a

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1   very good predictor of vote share.

2   Q.  Well, can you point to anyone else that is using rent share

3   as a variable to predict voter behavior?

4          THE COURT:  Let me back up, because I heard the

5   question -- the original question was the correlation between

6   rent share and party status, and you answered the question in

7   regard to voting.  In your mind, does that -- party status and

8   voting, does that mean the same thing?

9          THE WITNESS:  I was interpreting it to mean the same

10   thing:  Is there a relationship between the share of the

11   population who rents and the Democratic vote share?  And this

12   is something that I have a graduate student who is writing a

13   dissertation to this effect, so that's one reason why it's in

14   my mind.  But there is a literature that this person's

15   dissertation draws upon that certainly is examining -- some of

16   it's in economics, some of it's in political science --

17   examining the role of -- distinction between renters and owners

18   in vote choice.

19   BY MS. FRIDAY:

20   Q.  Okay.  But other than your graduate student, can you point

21   to any peer-reviewed literature that is using rent share as a

22   control variable?

23   A.  I certainly could if I had a little time to go back and

24   look.  Nothing -- nothing pops into my head right now.

25          THE COURT:  Counsel, you have about five minutes left.

1          MS. FRIDAY:  Okay.  Thank you, Your Honor.

2     BY MS. FRIDAY:

3     Q.  Now, you take issue with the control variables that are

4     used by the Secretary's expert, Sean Trende, right?

5     A.  I wouldn't say that I take issue with, for instance,

6     controlling for Hispanic share or age, I don't take issue with

7     those as -- as variables that are -- that we know are often

8     correlated with voting behavior.  And that's why I included

9     them in my follow-up report.

10    Q.  Okay.  Well, you claimed in your reply report that you

11    believe Mr. Trende simply was trying mixtures of variables

12    until he found the results that he wanted.

13          Do you recall saying that?

14    A.  Yes.  And the reason I -- I made -- I drew that conclusion

15    is there was really only one combination of variables in which

16    the -- the variable of interest for -- for ballot order lost

17    its statistical significance.  That was one in which both

18    population density and African American share were included in

19    the same regression along with other -- with other things.  So

20    if we included each of those individually, there is -- the

21    effect is of -- of -- of ballot order is, basically, the same.

22    But if we include them together, along with some other

23    variables, then that's the situation in which we see it look

24    marginally statistically significant.

25          So that's really -- if the question here is really

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1   just trying to get at the facts about whether this is a robust

2   result, the point I'm trying to make is we would not want to

3   reject this finding because there is one way we could take all

4   these census data and we can put them together in this one way

5   knowing that these two things are highly correlated, and the

6   coefficient on one of them doesn't make a lot of sense, the

7   fact that we can estimates the model in that one way and the P

8   value sneaks up above point one, that's not a reason for me to

9   reject the result that I see in the -- in the data.  That is --

10  and I don't think that's something that a reviewer for a

11  journal would buy into either.  That's the point I was trying

12  to make.

13  Q.  But you don't actually know what Mr. Trende did, right?

14  A.  No.

15  Q.  And you didn't include all the results of the various tests

16  you ran in reaching your conclusion that he must have tried

17  everything and only used the one that worked, right?

18  A.  Well, I think that by -- by looking at the first column of

19  table A 1 in my -- in my follow-up report, we can get that

20  basic gist, because we can control for -- we can control for

21  all these variables.

22       I'm sorry.  Looking at both the first two columns, we

23  can see that we can just basically control for everything, and

24  the -- the effect for ballot order does not -- does not go

25  away.  So I think the question -- I wasn't trying to make a

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1    point about -- about what Mr. Trende had done, I was trying to

2    make a point about the robustness of the result, which I think

3    is what -- is what -- my presumption is that's what the Court

4    is interested in.

5    Q.   So did you do the same analysis when you were looking at

6    the question of the ballot order effect in Florida?

7    A.   My -- my analysis in Florida was quite different.  It was

8    not looking for an absolute ballot order effect.  I was looking

9    at -- purely at the difference between the top of ballot races

10   and down ballot races.

11   Q.   And so in Florida your model employed what are called fixed

12   effects at the county level, right?

13   A.   Yes.

14   Q.   And that meant that you controlled for every future of a

15   county that was stable over time, and your results were driven

16   exclusively by variations within the counties, right?

17   A.   In Florida that was the only variation we had.  There was

18   -- it was a different type of ballot order system.  There was

19   no variation across counties in ballot orders.  So the only

20   variation we had was over time within counties.

21        This situation is very different.  We have several

22   counties where there is no variation over time.  This is a

23   situation -- and that was what that little -- that little table

24   with the -- with the blue and the -- and the red earlier was

25   demonstrating.  There were lots of counties where there is no

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1   variation over time.

2   Q.   And in Florida, in fact, you opined that there would --

3   that multicollinearity would result if you used the same

4   variables that you used here, right, the variables for

5   population density and party registration, right?

6   A.   This was a situation where I had already -- in that model I

7   already had included county fixed effects.  So I was already --

8   I was already controlling for all the things that -- that vary

9   across counties.  So that was not a setting in which it made

10  much sense for me to start adding a lot of demographic control

11  variables.

12  Q.   So there your opinion was the correlation between party

13  registration and population density was so high that those

14  variables could not be used because multicollinearity would

15  result?

16  A.   I don't recall making a -- I don't recall the specific

17  claim about particular variables.  I would have to take a look

18  at what I may have said.  That's -- that is a report that was a

19  while ago.  I'm not remembering exactly what the specific

20  situation was there.

21  Q.   You can't remember one way or another?

22  A.   Remember what exactly?

23  Q.   Whether you opined in the Florida case that using the

24  control variables for population density and for party

25  registration would result in multicollinearity because those

1  two variables were so highly correlated?

2  A.  I don't -- I don't recall.

3  Q.  Okay.

4          THE COURT:  All right.  We are at 4:59.  Ms. Friday,

5  we can continue tomorrow.

6          How much longer with this witness?

7          MS. FRIDAY:  Probably about ten minutes, Your Honor.

8          THE COURT:  All right.  And so, with that, we will

9  resume at 9:00 a.m. precisely.  All right.

10          MS. KHANNA:  Your Honor.

11          THE COURT:  Yes.

12          MS. KHANNA:  Just as a kind of procedural matter, the

13  cross-examination of this witness has taken significantly

14  longer than the direct examination, and we have one night to

15  prepare for our own cross-examination of defendant's proffered

16  expert.  We would appreciate the opportunity to consult with

17  Dr. Rodden as we prepare that cross-examination, despite the

18  fact that he seems to be in the middle of -- the

19  cross-examination has not yet concluded.

20          THE COURT:  What's the position of defendants?

21          MS. FRIDAY:  May we have a moment to confer, Your

22  Honor?

23          THE COURT:  Yes.

24          (An off-the-record discussion was held between defense

25  counsel.)

1          MS. FRIDAY:  We don't have any objection, Your Honor,

2     as long as they stick to the parameters of preparing

3     Mr. Trende's cross and not discussing what I've discussed with

4     Dr. Rodden today.

5          THE COURT:  And, sir, you are advised to adhere to

6     that admonition as well, Mr. Rodden.

7          And so, with that, we will be in recess.

8          (Proceedings concluded at 5:01 p.m.)

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1                    C E R T I F I C A T E

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3          I, CHRISTINE M. COALY, do hereby certify that I am

4   duly appointed and qualified to act as Official Court Reporter

5   for the United States District Court for the District of

6   Arizona.

7          I FURTHER CERTIFY that the foregoing pages constitute

8   a full, true, and accurate transcript of all of that portion of

9   the proceedings contained herein, had in the above-entitled

10  cause on the date specified therein, and that said transcript

11  was prepared under my direction and control.

12          DATED at Phoenix, Arizona, this 5th day of March,

13  2020.

14

15

16
                       /s/ Christine M. Coaly_____
17                     Christine M. Coaly, RMR, CRR

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UNITED STATES DISTRICT COURT

# EXHIBIT G

**UNITED STATES DISTRICT COURT**

**FOR THE DISTRICT OF ARIZONA**

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| | | |
|---|---|---|
| Brian Mecinas, et al., | ) | |
| | ) | No. CV-19-05547-DJH |
| Plaintiffs, | ) | |
| | ) | |
| vs. | ) | Phoenix, Arizona |
| | ) | March 5, 2020 |
| Katie Hobbs, in her official | ) | 8:58 a.m. |
| capacity as the Arizona Secretary | ) | |
| of State, | ) | |
| | ) | |
| Defendant. | ) | |

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BEFORE:   THE HONORABLE DIANE J. HUMETEWA, JUDGE

<u>REPORTER'S TRANSCRIPT OF PROCEEDINGS</u>

<u>PRELIMINARY INJUNCTION HEARING - DAY 2</u>

**(Pages 124 through 251)**

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 2       PLAINTIFF:

 3       DR. JONATHAN RODDEN                        127         133
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 4
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 5       DEFENDANT:

 6       SEAN PATRICK TRENDE           191         213        245

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UNITED STATES DISTRICT COURT

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1                    P R O C E E D I N G S

2            THE COURT:  All right.  Good morning.  And please be

3      seated.

4            All right.  Let's have the witness back on the stand.

5            And you may continue with the cross-examination,

6      Ms. Friday.

7            MS. FRIDAY:  Thank you, Your Honor.

8            THE COURT:  And, Mr. Rodden, I do remind you, you

9      remain under oath for purposes of your testimony.

10           THE WITNESS:  Yes.  Thank you.

11           THE COURT:  All right.  You may continue.

12           MS. FRIDAY:  Thank you, Your Honor.

13                    CONTINUED CROSS-EXAMINATION

14     BY MS. FRIDAY:

15     Q.  Good morning, Dr. Rodden.

16     A.  Good morning.

17     Q.  Your matching analysis looks at county level observations,

18     correct?

19     A.  Yes.

20     Q.  And for county -- for each county election observation in

21     which Republicans are listed first, you tried to find the most

22     similar observation in which Democrats were listed first,

23     right?

24     A.  Yes.

25     Q.  For your matching analysis, you used both district and
```

1   statewide races, right?

2   A.  Yes.  I have also conducted the analysis broken down by

3   only statewide races.

4   Q.  That was my next question.  So did you do any matching

5   analysis of just statewide races?

6   A.  Yes.

7   Q.  And when doing a matching analysis, the key assumption is

8   whether a candidate is listed first on the ballot or not,

9   appears as if random.

10        Do you agree with that?

11   A.  The -- the purpose of this analysis is to -- is to create a

12   situation that comes closer to randomization than --

13   Q.  I'm sorry to interrupt you.  We're a little pressed for

14   time this morning.  Could you please answer yes or no.

15        Is the assumption in a matching analysis that whether

16   a candidate is listed first on a ballot or not appears as if

17   random?

18   A.  Yes.

19   Q.  And -- but here the ballot order in Arizona isn't random,

20   because it's based on who won the gubernatorial popular vote in

21   that county in the prior election, right?

22   A.  That's right.

23   Q.  Isn't the outcome of the matching analysis affected by the

24   fact that the first listed candidates were not selected at

25   random?

UNITED STATES DISTRICT COURT

1   A.   That's the whole purpose of the matching analysis is to

2   come closer to the random assignment by matching on -- matching

3   on something that is -- that we know is driving the -- driving

4   the assignment.  So we're trying to find cases that are as

5   close as possible on Republican registration in the previous --

6   in the previous election.

7   Q.   But you're not able to find cases in which the treatment

8   condition, in other words, whether the candidate listed first

9   was Republican or Democrat, was random, right?

10  A.   That's right.  We don't have random assignment.  We're

11  trying to get closer to that with this technique.

12  Q.   Matching analysis is also sensitive to the selection of

13  variables, right?

14  A.   That's right.

15  Q.   So when you change the variables you're attempting to

16  match, your result will also change?

17  A.   Yes, because we need to achieve a good match on the

18  variables we care about.

19  Q.   And so do you agree that a matching analysis needs to

20  include all relevant variables in the match?

21  A.   It needs to include the most important variables.  In this

22  -- in this case, I made the case that it's -- it's the

23  Republican registration share that is the most important

24  variable to achieve -- for achieving the match.

25  Q.   You don't include year in your matching pairs, do you?

1   A.   I may have included that in some robustness checks.   I

2   don't recall at the moment.

3   Q.   You agree, though, that the prior year election will affect

4   whether or not a Republican or Democratic candidate is listed

5   first, right?

6   A.   Well, that's the point.   That's the purpose of the

7   analysis, yes.

8   Q.   But you're not sure whether you included the year in your

9   patching pairs?

10   A.   These are -- the matches are based on the previous years'

11   election, so it's included in that sense.

12   Q.   But you didn't include year as a variable?

13   A.   Again, I think in some robustness checks I did, but I don't

14   -- I don't recall.

15   Q.   Do you agree that the power of a significance test to

16   detect a real difference between groups of voters who saw

17   different ballot orders depends on the number of independent

18   observations on which the significance test is based?

19   A.   Yes.

20   Q.   Observations have to be independent of each other,

21   otherwise the significance of a result might be overstated.

22          Do you agree?

23   A.   That's correct.

24   Q.   You claim in your report that you have 2,129 observations;

25   is that right?

1    A.   Yes.

2    Q.   And as we discussed yesterday, you count each election

3    outcome within a county as a separate observation, right?

4    A.   Yes.

5    Q.   In some instances, one election can have several

6    observations if it spans multiple counties, correct?

7    A.   Yes.

8    Q.   And you treat those observations as if they are

9    independent?

10   A.   In the first report, yes.

11   Q.   But election outcomes are related to when and where they

12   occur, right?

13   A.   That's right.

14   Q.   As we discussed yesterday, in Arizona, certain counties

15   have consistently voted Democratic while others have voted

16   Republican?

17   A.   Yes.

18   Q.   And we see trends in those county voting patterns over

19   time?

20   A.   Yes.

21   Q.   Do you agree that an analysis of voting behavior needs to

22   take into account the similarities within counties over time?

23   A.   Yes.

24   Q.   But your basic model treats a 2018 election in Apache

25   County as completely independent from the same election in 2016

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1   in Apache County, doesn't it?

2   A.   In the -- in the basic model presented in the first report,

3   yes.

4   Q.   And your basic model in your first report also treats the

5   2016 election in Apache County -- a 2016 election in Apache

6   County as completely independent from other 2016 elections in

7   Apache County, right?

8   A.   That's the assumption in the -- in the model, yes.

9   Q.   Do you agree that one way to take into account similarities

10  within counties over time is to cluster the counties?

11  A.   To cluster the counties, meaning to -- to calculate

12  standard errors that are clustered at the level of county?

13  Q.   Correct.

14  A.   Yes.

15  Q.   And do you agree that the question of when to cluster data

16  is the subject of debate among statisticians and political

17  scientists?

18  A.   Yes.

19       MS. FRIDAY:   Thank you.   I have no further questions.

20       THE COURT:   Thank you.   And it's my determination that

21  the use of the county map yesterday was an important part of, I

22  think, the examination, and I think it is informative to the

23  overall issues here, and so I think we will make that part of

24  the record and an exhibit, and so we will number it as the last

25  exhibit.

UNITED STATES DISTRICT COURT

1          And so, I think because it's on a large board, if you

2    could produce it maybe in a smaller form with the same color

3    map scheme, that would be appropriate.

4          MS. FRIDAY:  We will do that, Your Honor.  Thank you.

5          THE COURT:  All right.

6          MS. FRIDAY:  And, for our records, that would be

7    Exhibit 108; is that right?

8          Thank you, Your Honor.

9          THE COURT:  Exhibit 108.  Okay.  Thank you.  All

10   right.

11          You may proceed.

12          MS. KHANNA:  Thank you, Your Honor.

13                      REDIRECT EXAMINATION

14   BY MS. KHANNA:

15   Q.  Good morning, Dr. Rodden.

16   A.  Good morning.

17   Q.  Dr. Rodden, you were asked on cross-examination yesterday

18   whether you had taken any statistics courses since you were a

19   student.

20          Do you recall that?

21   A.  Yes.

22   Q.  And I believe you said you had not?

23   A.  That's right.

24   Q.  In fact, in the 20 years since you earned your Ph.D., you

25   have taught at the undergraduate and graduate level involving

1   the application of statistical methods generally and to

2   election data specifically; is that correct?

3   A.  Yes.

4   Q.  You've taught master's students, correct?

5   A.  Yes.

6   Q.  You've taught Ph.D. students, correct?

7   A.  Yes.

8   Q.  You have also developed and run the Spatial Social Science

9   Lab at Stanford which is devoted to the statistical analysis of

10   election data; is that correct?

11   A.  That's correct.

12   Q.  And, in fact, the Court yesterday qualified you as an

13   expert in statistical analysis of election data; is that right?

14   A.  Yes.

15   Q.  You were also asked on cross-examination whether you have

16   determined the ballot order impact in any specific 2020

17   election.

18        Do you recall that?

19   A.  Yes.

20   Q.  And you testified you have not?

21   A.  I have not.

22   Q.  And I believe you testified you examined the last 40 years

23   of Arizona election data provided by the Arizona Secretary of

24   State; is that right?

25   A.  Yes.

135

1    Q.  And you concluded in your report, based on your analysis of

2    that last 40 years of elections data, that first listed

3    candidates see a statistically significant electoral advantage,

4    correct?

5    A.  Correct.

6    Q.  Is it fair to say you do not have the data on the

7    November 2020 Arizona elections?

8    A.  That is fair to say.  I don't have a crystal ball.

9    Q.  Do you have any reason to believe that the ballot order

10   effect that you observed from the last 40 years of Arizona

11   election data would disappear in the November 2020 election?

12   A.  No.

13   Q.  Yesterday counsel asked you on cross-examination about the

14   three different statistical methods that you applied to discern

15   whether there is evidence of a ballot order effect in Arizona.

16           Do you recall?

17   A.  Yes.

18   Q.  And you testified, both on direct and cross, I believe, to

19   your -- to the certain limitations inherent in your close

20   elections analysis; is that right?

21   A.  Right.

22   Q.  And you expressly raised a caveat on the close elections

23   analysis in your initial report when discussing that analysis;

24   is that right?

25   A.  Yes.

1   Q.   So where you had reason to question the magnitude of a

2   specific coefficient, you specifically alerted the Court to

3   that fact in your report; is that right?

4   A.   Yes.   I believe there are caveats throughout the report at

5   various places.

6   Q.   Why did you do that?

7   A.   Well, I think it's important for the Court to know what the

8   -- what the weaknesses are of the various approaches,

9   especially when navigating through to why we're looking at so

10   many different -- so many different results in the report.

11   Q.   Is that consistent with your scholarly approach in your own

12   work outside of this expert report?

13   A.   Yes.

14   Q.   You were also asked by counsel during your cross about your

15   use of the Stata or Stata program; is that right?

16   A.   Yes.

17   Q.   I believe you said you prefer Stata?

18   A.   Yes.

19   Q.   And you used Stata in performing your regression analysis;

20   is that right?

21   A.   Yes.

22   Q.   Now, Mr. Trende critiques your Stata regression analysis

23   for failing to cluster standard errors; is that correct?

24   A.   Yes.

25   Q.   At the county level?

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1    A.  Yes.

2    Q.  And he recommends a model that has 15 clusters for the 15

3    counties; is that right?

4    A.  Yes.  That's the main recommendation I believe he's making.

5    Q.  And how many control variables does Mr. Trende suggest

6    should be included in that clustered model?

7    A.  I think he includes 36.

8    Q.  What happens to the Stata analysis that you run when there

9    are more than twice as many control variables as there are

10    clusters, as Mr. Trende suggests?

11    A.  It will produce -- it will produce coefficients and

12    standard errors, but it does provide -- in the basic model

13    statistics, it won't provide those, instead it provides an

14    error message.  And when one reads the error message, it

15    explains that a model that has more covariates than clusters --

16    and this goes for a GEE model, for a Bayesian hierarchical

17    model, or for an ordinary least squares regression model that

18    has clustered standard errors.  In all these instances, it

19    really doesn't make sense to estimate a model that has more

20    variables than clusters in it, and it actually won't produce

21    basic model statistics for that reason.  It just gives us an

22    error message.

23    Q.  You were also asked a few questions yesterday about your

24    analysis in the Florida ballot order case.

25          Do you recall that?

138

1    A.   Yes.

2    Q.   And you testified that the focus of your inquiry in the

3    Florida ballot order case was actually different than the focus

4    of your inquiry in this case; is that right?

5    A.   Yes.

6    Q.   And you were presented with a single sentence in your

7    Florida report where you indicate that Florida has had some

8    close elections; is that right?

9    A.   That's right.

10   Q.   Do you know if Arizona has also had close elections?

11   A.   Yes, I know firsthand from my previous work in Arizona.  It

12   was a case pertaining to -- to the counting of out-of-precinct

13   ballots.  And I recall that there were some -- there were some

14   races that were so close that parties were suing one another to

15   try to have the out-of-precinct ballots counted.  So those are

16   some very close elections that I can recall.  And, of course,

17   we've seen very close statewide elections and so forth.  It's a

18   hotly contested state.

19          MS. FRIDAY:  I'm going to lodge an objection, Your

20   Honor.  These questions are getting to be pretty leading.

21          THE COURT:  I'm sorry?

22          MS. FRIDAY:  These questions are becoming pretty

23   leading.

24          MS. KHANNA:  Your Honor --

25          THE COURT:  I would agree.

UNITED STATES DISTRICT COURT

1       MS. KHANNA:  I can make them more open-ended.  I'm

2   trying to -- I know we are limited on time, so I'm trying to be

3   as expeditious as possible, but I will keep that to a minimum.

4   BY MS. KHANNA:

5   Q.  You mentioned that you had done some work in a case about

6   out of precinct -- where out-of-precinct votes were being

7   fought over because the elections were so close; is that right?

8   A.  Yes.

9   Q.  What case was that?

10  A.  I'm sorry, I forgot the name of the case, but it was here

11  in this -- in this building.

12  Q.  Is that the DNC versus Hobbs case we talked about yesterday

13  that the Ninth Circuit recently affirmed en banc -- or ruled on

14  en banc?

15  A.  Yes.

16  Q.  And I think you also mentioned some resent statewide close

17  elections that you're aware of.  Anything in particular that

18  you recall?

19  A.  I think we all notice the recent senate election was very

20  close.

21  Q.  Okay.  Yesterday counsel for the Secretary showed you the

22  -- your "do" file, which is the code file that you produced to

23  the other side in this case; is that right?

24  A.  Yes.

25  Q.  And she pointed out an area where in calculating the ballot

 1   order effect that accrues to Democratic first listed

 2   candidates, the code suggested that you had mistakenly included

 3   the control variable for the Republican voter registration?

 4   A.   That's right.  I controlled for a Republican registration

 5   share in a model where the Democratic vote share was the

 6   dependent variable.

 7   Q.   And was that notation in your main regression analysis?

 8   A.   No.

 9   Q.   Where was it?

10   A.   That was one of the robustness checks that we discussed.

11   Q.   It did not affect your main regression analysis reported in

12   your initial report?

13   A.   That's correct.

14   Q.   And you also testified that it reflected a copy and paste

15   error that had not actually made its way into your analysis in

16   the report; is that right?

17   A.   That's right.  When I look at the appendix tables, I don't

18   see that -- see evidence of having included the wrong variable

19   there.

20   Q.   And I believe you also testified that even if it had made

21   its way into your analysis, it would be of little consequence?

22   A.   Yes, just because the Democratic registration share and the

23   Republican registration share are highly correlated.  We get

24   very similar results just with the sign on the coefficient

25   being different.

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1          THE COURT:  Mr. Rodden, I'm going to instruct you to

2    wait for the question rather than jumping in and assuming what

3    counsel is asking you to answer.  So focus your answer narrowly

4    to the question.

5          THE WITNESS:  Certainly.  Thanks.

6          MS. KHANNA:  Thank you, Your Honor.

7    BY MS. KHANNA:

8    Q.  So let's assume for the moment that -- that the mistake

9    that counsel identified in the transmission of the variable in

10   the document somehow wholly infected your analysis of ballot

11   order effect in favor of first listed Democrats.

12         Can we assume that for the moment?

13   A.  Okay.

14   Q.  And I just want to clarify that that's -- it is your

15   position that that was not the case; is that right?

16   A.  That's right.

17   Q.  Would the mistake that counsel focused on yesterday have

18   any effect on your calculation of the ballot order effect for

19   first listed Republican candidates?

20   A.  No, those are separate analyses.

21   Q.  And you read Mr. Trende's report in this case?

22   A.  Yes.

23   Q.  Did Mr. Trende, in his report, provide any analysis that

24   the control variable in that instance made any difference to

25   the results of your report?

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1   A.   No.

2   Q.   Counsel for the Secretary spoke extensively with you

3   yesterday regarding the potential disparity between county

4   level partisanship data and district level election results in

5   districted elections; is that correct?

6   A.   Yes.

7   Q.   And what -- what elections are affected by the -- what

8   elections are districted in your analysis?

9   A.   Just the U.S. House and State Senate.

10   Q.   Under Arizona's ballot order law, is ballot order set at

11   the county level or the district level?

12   A.   It's set at the county level.

13   Q.   So to the extent that there was any measurement error,

14   which I believe was the term used yesterday, was it in the

15   independent variable?

16   A.   It was in the -- not in the main independent variable.

17   That's the ballot order variable which is set at the county

18   level, so there is no measurement error in that.

19   Q.   It was not in the main independent variable?

20   A.   That's right.

21   Q.   And it was not in the main dependent variable, or the

22   dependent variable?

23   A.   No.   Those are all election results that are coming

24   directly from the Secretary of State at the county level.

25   Q.   So the measurement error existed, perhaps, in various

1   control variables?

2   A.   Yes.

3   Q.   Does that necessarily mean that the coefficient for the

4   main independent variable is wrong?

5   A.   No.

6   Q.   Why not?

7   A.   The -- the measurement error is -- is affecting the

8   coefficients on the control variables, so if we're interested

9   in those variables, we know that we probably have some -- some

10  bias in those, and we have a harder time interpreting those,

11  but it doesn't necessarily affect the -- the -- what we can

12  learn about ballot order.

13  Q.   Just to clarify.   You've been using this term measurement

14  error.   That is not an error in your measurement of anything in

15  the course of your analysis; is that right?

16         MS. FRIDAY:   I'm going to object again.   This is still

17  pretty leading questioning.

18         MS. KHANNA:   I can rephrase, Your Honor.

19         THE COURT:   Sustained.

20         Wait for my ruling.   We don't want to talk over one

21  another.   We have our court reporter who is working very hard.

22         So sustained.

23         MS. KHANNA:   Thank you, Your Honor.

24  BY MS. KHANNA:

25  Q.   Can you please clarify for the Court what this measurement

1 error is?

2 A.   This is just a necessary byproduct of using the data at the

3 -- using the counties as a unit of analysis when the -- some of

4 the control variables are measured at -- at -- when we have

5 districts that are not perfectly coterminous with counties.  So

6 it's something that is built into the -- the use control

7 variables, and there is not really anything I can do about it

8 other than -- other than, you know, pay attention to that and

9 try the analysis without those districted races.

10 Q.   Because the data is maintained at the county level, as you

11 mentioned; is that right?

12 A.   Right.

13 Q.   Secretary's counsel also discussed with you Congressional

14 District 1 yesterday.

15          Do you recall that?

16 A.   Yes.

17 Q.   And I think she -- she suggested that -- I believe she

18 asked you whether the result reported for that election in your

19 analysis was wrong; is that right?

20 A.   I believe that was the question.

21 Q.   And who was the winner -- do you recall who the winner was,

22 just from your testimony yesterday?

23 A.   I have forgotten now the name.

24 Q.   I -- if I can represent to you that yesterday they

25 discussed -- we discussed on cross that the winner in that

1   District 1 election was the Democrat Tom O'Halleran?

2   A.   Yes.

3   Q.   And the Secretary's counsel asked you -- or she represented

4   to you that you had reported the winner in the Pima County

5   portion of that district as his opponent Republican Wendy

6   Rogers; is that right?

7   A.   That's right.

8   Q.   When the Arizona Secretary of State reports election data,

9   at what -- at what level does the office report that data?

10  A.   The data I collected from the Web site or at the county

11  level.

12  Q.   So the Arizona Secretary of State's office election data,

13  does it report data for districted elections at the county

14  level?

15  A.   Yes.

16  Q.   So as reported by the Secretary of State, did the

17  Republican challenger actually win in the Pima County portion

18  of District 1?

19  A.   Yes.

20  Q.   Even though she was not the winner of the district overall?

21  A.   That's correct.

22  Q.   So to address the concern raised by Secretary's counsel,

23  did you input any incorrect election data into your analysis?

24  A.   Not to my knowledge.

25  Q.   Are you aware that the -- that the election data reported

1    by the Secretary of State is somehow incorrect?

2    A.   No, I don't have any reason to think that.

3    Q.   Okay.  Now, in your initial report you recognized, as you

4    testified yesterday, the drawbacks -- potential drawbacks of

5    including districted elections in the analysis; is that right?

6    A.   Yes.

7    Q.   And did you do any robustness checks based on that

8    recognition?

9    A.   Yes.  I simply reran the analysis without those districted

10   races.

11   Q.   And did you find any -- did you find a statistically

12   significant ballot order effect when you did that robustness

13   check?

14   A.   Yes.

15   Q.   I want to turn back to Plaintiff's Exhibit 3, your initial

16   report, to figure 2, which is on exhibit page 22.

17          If we could pull that up on the screen.

18          And this is the figure that you said represented kind

19   of the key results of your main regression analysis; is that

20   right?

21   A.   Yes.

22   Q.   And what is the estimate for the average ballot order

23   effect for Republican first listed candidates?

24   A.   Around a little over 2 percent.

25   Q.   And what about for Republican first listed candidates in

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1  open seats when there is no incumbent running?

2  A.  It was about 5 percent.

3  Q.  5.6 percent, as reported in your report; is that right?

4  A.  Yes.

5  Q.  And you testified that you reviewed Mr. Trende's report

6  critiquing your analysis; is that right?

7  A.  Yes.

8  Q.  And does Mr. Trende contend that you should have looked at

9  other statistical methods in analyzing this question?

10  A.  Yes.

11  Q.  Is it fair to say that in your second report you explain

12  your disagreement with Mr. Trende's assessment about which

13  techniques are appropriate?

14  A.  Yes.

15  Q.  In the interest of time, I'm not going to walk you through

16  your -- each and every critique -- response to Mr. Trende's

17  critique as stated in your report, but if we could pull up

18  Mr. Trende's report, which is Defendant's Exhibit 101.

19        MS. FRIDAY:  Your Honor, I'm going to object here as

20  being beyond the scope of my cross-examination.  I didn't use

21  Mr. Trende's report in the cross.

22        MS. KHANNA:  If I may respond, Your Honor?

23        THE COURT:  Yes.

24        MS. KHANNA:  We discussed yesterday with counsel about

25  the timing issues.  We specifically noted we wanted to reserve

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1     time for rebuttal.  Counsel objected to that yesterday after we

2     discussed, outside the courtroom, and said that they would

3     disagree that we would have a chance for rebuttal.

4          They specifically did raise issues with Mr. Trende's

5     reports and his clustering analysis on his cross-examination.

6     We had originally assumed that we would have a chance for

7     rebuttal, which is why we shortened Mr. -- Dr. Rodden's direct

8     examination.  And I -- this is a very short discussion of the

9     issues that were raised both in the direct examination and in

10    the rebuttal reports.

11         THE COURT:  Well, I think you can cover the ground

12    that was covered by Ms. Friday yesterday regarding the

13    questions she asked about the report, but if you go beyond the

14    scope of her cross-examination, then I'm sure there is going to

15    be an objection, and I will likely sustain it.  So just be

16    aware of that.

17         MS. KHANNA:  May I reserve five minutes of time at the

18    end to ensure that we have an opportunity to put on rebuttal

19    testimony?

20         THE COURT:  And let me just point out, counsel, my

21    understanding is you contacted my chambers early this morning

22    seeking to begin 15 minutes early.  And I think -- in the first

23    instance, you have to understand, we schedule staff to be here

24    at a certain time to begin at a certain time, so those last-

25    minute kinds of requests are not looked upon favorably.

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1          But, that being said, I understand you're going a

2  little bit further into detail, and I do appreciate that, and

3  so what I'm inclined to do, because our cutoff time really is

4  at noon, I'll permit the parties to take up to about 12:30 this

5  afternoon.  And so with that little bit of a buffer -- and do

6  keep in mind -- and I guess I direct this more to the

7  defendant's counsel -- that if Mr. Trende spills over, he

8  certainly is welcome to come back on Tuesday.

9          Again, I set aside sufficient time for you to argue

10  the legal portion, but if for some reason we need to spill over

11  into Tuesday with presentation of his information, we can do

12  that.  So I don't want you to feel that you're being squeezed,

13  but, at the same time, I need to remind you that we're adhering

14  to the rules and the procedural rules, and so don't go beyond

15  what was covered in the cross-examination.

16          MS. KHANNA:  Thank you, Your Honor.

17          THE COURT:  All right.

18          MS. KHANNA:  I have no further questions at this time,

19  Your Honor.

20          THE COURT:  All right.  Thank you.

21          Sir, you may step down.  I appreciate your coming.

22          THE WITNESS:  Thank you.

23          THE COURT:  All right.  You may call your next

24  witness.

25          MS. KHANNA:  Our witness is just in the witness room,

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 1   Your Honor.  He's coming right now.

 2              THE COURT:  Please call your next witness.

 3              MR. GEISE:  Plaintiffs call Dr. Jon Krosnick to the

 4   stand.

 5              THE COURT:  Sir, please come forward and be sworn.

 6              (The witness was duly sworn.)

 7              COURTROOM DEPUTY:  Please state and spell your name

 8   for the record.

 9              THE WITNESS:  Jon, J-O-N, Alexander,

10   A-L-E-X-A-N-D-E-R, Krosnick, K-R-O-S-N-I-C-K.

11              COURTROOM DEPUTY:  Thank you.  Please proceed to the

12   witness stand.

13              THE WITNESS:  Good morning.

14              THE COURT:  Good morning.

15              MR. GEISE:  Your Honor, I have Dr. Krosnick's exhibits

16   that have been admitted, I have them in a binder just for his

17   reference.  Can I approach?

18              THE COURT:  You may, yes.

19              MR. GEISE:  Thank you.

20              THE WITNESS:  Thank you.

21                        DIRECT EXAMINATION

22   BY MR. GEISE:

23   Q.  Good morning, Dr. Krosnick.  I would like to just start

24   with some brief questions about your background and expertise.

25              Where are you currently employed?
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1  A.  I am currently a professor at Stanford University.  And

2  there I'm a professor in three departments:  Political science,

3  communication, and psychology.  And I'm also employed as a

4  research psychologist at the U.S. Census Bureau where I am an

5  advisor on research methods on the projects that they conduct.

6  Q.  And how long have you been a full tenured professor at

7  Stanford?

8  A.  I've been a full tenured professor at Stanford since 2004,

9  although I spent the prior year as a visitor on their faculty

10  as well.

11  Q.  And prior to Stanford, were you a professor anywhere else?

12  A.  I was a professor at Ohio State University in Columbus,

13  Ohio, for 18 years, on the faculty there in political science

14  and psychology.

15  Q.  And you also said you're a research psychologist for the

16  Census Bureau.  Just, briefly, what does that involve?

17  A.  Well, the Census Bureau, of course, conducts the decennial

18  census every ten years that we all know about and that they're

19  doing right now.  But, in addition, they conduct lots of

20  surveys of very high quality throughout the years in between.

21  For example, one of the most visible statistics to come from

22  the Census Bureau is the U.S. unemployment rate, which has

23  tremendous consequences for the economy.  That is gained

24  through surveys.  And so it's important that the Census Bureau

25  know how to design their surveys according to best practices,

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 1  and that's the role that I play there in helping them do that.
 2  Q.  Thank you.  I would like to turn to your education just
 3  briefly.  What's your educational background?
 4  A.  My B.A. is from Harvard University in psychology, and my
 5  Ph.D. and master's degrees are in psychology from the
 6  University of Michigan, where I worked with faculty in
 7  psychology and political science and in sociology.  And my
 8  dissertation advisor was jointly appointed in political science
 9  and psychology.
10  Q.  And since you obtained your Ph.D., what's been the focus of
11  your professional and academic career?
12  A.  There really are two principal foci of my work.  The first
13  is on the psychology of politics, and I'm focused especially on
14  the thinking and actions of American citizens.  And so what I
15  do in that work is to study how people decide whether to vote
16  or not; how they decide who to vote for; how they decide
17  whether to approve or not of the president; how they decide
18  whether to become passionate about particular policy issues,
19  and what happens cognitively and behaviorally when they do
20  that.
21          And one of the areas of research for me for more than
22  two decades has been the study of the impact of ballot design,
23  and in particular the order of candidate names on choices.  So
24  that's the first domain, the political psychology domain.
25          The second domain of my work is in the arena of
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1   research methodology, with a special focus on surveys.  I'm

2   writing a book called the Handbook of Questionnaire Design.

3   I've edited the handbook of survey research where -- and that

4   work is all devoted to understanding best practices and

5   surveys, but I'm also cofounder of the group on best practices

6   in science at Stanford, and our mission is to help scientists

7   do their work as well as possible.

8   Q.  Great.  And you mentioned some books.  Has your research

9   ever been published in peer-reviewed journals or books?

10  A.  Yes, it has.  I've had, I think, more than 150

11  peer-reviewed journal articles and book chapters.  And I think

12  I may have something like seven books published or in press at

13  the moment.

14  Q.  And, just briefly, what does it mean for an article to be

15  published in a peer-reviewed journal?

16  A.  Well, the peer-review process is the centerpiece of

17  science.  It involves a process whereby if I write an article

18  that I'd like to have published in a high prestige journal, it

19  gets submitted to the editor at that journal who manages my

20  submission.  That person has a Ph.D. and expertise in the topic

21  that I'm going to -- that I'm writing about.

22       That editor then sends the article out to between two

23  and five of my peers who are also experts with Ph.D.s in the

24  area, and have, ideally, decades of experience in the field.

25  And that group, the editor and the reviewers typically write

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1    long letters of feedback to the author, providing guidance on

2    what would be needed in order to make the paper publishable.

3            The journals that I publish in are of the most

4    competitive, highest impact journals.  And, as a result, their

5    rejection rates are typically in the region of 90 percent,

6    which means that the likelihood is that papers will be rejected

7    rather than accepted.  Mine almost always involve letters of

8    advice from the peer-review process to improve and then

9    ultimately do get published in those journals.  And so peer

10   review is really the centerpiece of science.

11   Q.  And do you view that process as a critical means to improve

12   as a professor and as an academic?

13   A.  Always.  My work and the work I'm going to talk about today

14   in court is work that has been subjected to this process.  And

15   having multiple eyes with multiple areas of expertise looking

16   at science and process, always helps us make our work better.

17   My work, certainly, has always benefited from peer input.

18   Q.  So having been -- having been subject to the peer-review

19   process has made you more meticulous in your work in general.

20   Is that fair to say?

21   A.  No doubt.  Every time I submit an article, I'm always try

22   to think ahead and be the devil's advocate, try to think about

23   what could the reviewers say that would be hesitations or

24   concerns for them, and to anticipate those in a way that allows

25   me to address them in advance, so that when the paper is
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1    ultimately submitted to the journal and reviewed, the chances

2    that they will like it and see it as meeting high standards is

3    maximized.  And that's all part of the process to make science

4    both as good as possible and as efficient as possible.

5    Q.  And do you -- do you think that meticulous check is present

6    here when you're testifying as an expert in a courtroom as

7    well?

8    A.  Absolutely.  So I think, as an expert, I am here to testify

9    always based upon scientific literature that's gone through the

10   peer-review process.  And the studies that I'll talk about

11   today are certainly ones that have gone through that process.

12   And so as much as one might say, gee, there are quite a few

13   studies here, quite a few authors, the number of eyes of

14   individuals who have seen and approved of that work is much,

15   much greater than that prior to publication.

16         But also an important indication of quality is the

17   citation count of the papers, that after the papers are

18   published, if they inspire other scientists to study the same

19   topics and if they are cited in many subsequent publications,

20   that's a sign of peer review and approval.  And that's the case

21   for this literature I'll tell you about as well.

22         MR. GEISE:  Great.  Now, Your Honor, pursuant to

23   Federal Rule of Evidence 702, I want to proffer Dr. Krosnick as

24   an expert in the psychology of voter decision making and

25   elections, and research methodology, data analysis, and

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 1   statistics.

 2           MS. O'GRADY:  No objection, Your Honor.

 3           THE COURT:  Yes.  The Court will recognize him as

 4   such.  Thank you.

 5           MR. GEISE:  Thank you, Your Honor.

 6   BY MR. GEISE:

 7   Q.  Dr. Krosnick, you have in front of you a binder.  And I

 8   believe -- could you just identify in there, I believe there

 9   are two things marked Exhibit 1 and Exhibit 2?

10   A.  Exhibit 1 is the first report that I submitted to the Court

11   in this case, and Exhibit 2 is the second report that I

12   submitted to the Court in this case.

13   Q.  Great.  Now, taking a step back.  Dr. Krosnick, you said

14   your research has involved studying order effects, and I

15   believe you specifically said candidate name order effects, so

16   I want to break those in two.

17           So, first, what are order effects?

18   A.  Well, order effects are a part of life and a part of being

19   human, that in many situations as we navigate through our days,

20   we're encountering objects of choice and we encounter them in a

21   particular order.  So every time we go into a restaurant and we

22   see a menu, the items on that menu are presented in a

23   particular order.  We typically start reading at the top of the

24   menu and we move down.  And that very nature of the experience

25   we have as humans means that we encounter our selections, our
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1    opportunities, in a sequenced way rather than all at once.

2    And, as it turns out, we now know that in many arenas of life,

3    the order in which people encounter objects affects the choices

4    that they make among them.

5    Q.   And so is there a name for the tendency for someone, when

6    presented with stuff visually, to pick the first option?

7    A.   Yes.   So when we -- when we encounter objects visually,

8    there is a tendency to lean towards selecting the first things

9    that we see, and that's called a primacy effect.

10   Q.   Great.   Are there contexts, separate from elections, and I

11   think you've semi-answered this question, where primacy effects

12   have been observed?

13   A.   Yes.   So primacy effects have been observed in many

14   different contexts.   For example, if I were to put out four

15   glasses of beer here from different manufacturers, unmarked

16   glasses, and ask a hundred people to taste them, randomize the

17   order in which the brands are presented to different people,

18   people will manifest a tendency to prefer the first beer that

19   they taste over the others.

20          When people cross parking lots coming in on one

21   corner, going out on the opposite corner, and at some point

22   needing to turn left to go through the rows of cars to get to

23   the other side, they tend to turn left as soon as possible.

24          When students answer multiple choice questions on

25   tests incorrectly, they tend to do so by selecting options that

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1  are presented first.

2          THE COURT:  You said incorrectly.

3          THE WITNESS:  Incorrectly, right.  So if they answer

4  correctly, the answer is wherever the professor puts them, but

5  when they answer wrong and they don't know the answer exactly,

6  they tend to lean toward what they see first.

7          And it's also true in surveys, when respondents are

8  given a list of choices, for example, what's the most important

9  problem facing the country today, is it unemployment,

10  inflation, crime, education, budget deficit, the order in which

11  those options are presented, when they are presented visually,

12  people tend to lean towards selecting what they read first.  So

13  order effects and primacy effects, in particular, are a part of

14  life.

15  BY MR. GEISE:

16  Q.  And in context, other than elections, are you aware of

17  efforts to control or account for these effects?

18  A.  Absolutely.  The survey researchers, for example, are now

19  very aware of order effects in surveys.  And so routinely

20  survey researchers rotate the order of answer choices and

21  questions so as not to introduce a bias.  Researchers never

22  want to introduce a bias, but they may not have realized in the

23  old days that they were doing so, but since then we've now

24  adopted this practice of rotation to avoid that.

25          And in tests of beers and other products, researchers

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1   know it makes sense to rotate that order in order to avoid bias

2   as well.

3   Q.  So fair to say these are a pretty broadly understood part

4   of human nature?

5   A.  Absolutely.  Order effects are now, among people studying

6   choice, are very well known.

7   Q.  Great.  And now I'd like to segue to candidate name order

8   effects.  What are candidate name order effects?

9   A.  Well, stated generally, the interest here is in whether the

10  order of candidate names on ballots influencing voting

11  behavior.  And given the prevalence of name order effects

12  throughout the rest of life, it would be surprising if they

13  didn't show up in elections.  And, as it turns out, they do.

14  We now have a large literature showing that candidates whose

15  names are listed first on the ballot enjoy an advantage of a

16  couple of percentage points.  It's not a huge number, it's not

17  20, or 30, or 40 percent, but it is reliably a couple of

18  percentage points on average.

19  Q.  And I believe you said you've studied those for about three

20  decades.  Have you published on candidate name order effects in

21  elections?

22  A.  I have.  My first publication was dated 1998.  I have

23  published a series of papers in peer-review journals and books

24  since then.  And I now have a new paper under review at a

25  journal presently.

1    Q.  And have you testified as an expert on candidate name order

2    effects in other court cases?

3    A.  I have.  I testified in New Hampshire a few years ago,

4    where the supreme court there declared the law unconstitutional

5    and required the legislature to begin rotating names.

6         I testified recently in federal court in Florida where

7    the Court made a similar determination.

8    Q.  Great.  And, just broadly, what are the two psychological

9    -- what are the two explanations people usually have for why

10   candidate name order effects occur in elections?

11   A.  There are two theoretical perspectives.  One is lack of

12   information, that there are many races on most ballots, and in

13   California, for example, we have lots of referenda as well.

14   The referenda are complex.  For a voter to become informed

15   fully about all of the candidates running is quite a time

16   consuming task.  And voters may sometimes confront ballots when

17   they feel the obligation to be a good citizen and to

18   participate in the election, but may not be as fully informed

19   as they could be.  And so when looking at the ballot somebody

20   might say, well, I know a couple of good things about this

21   candidate, I know a couple of good things about that candidate,

22   I'm not really sure.  And at that moment of uncertainty, the

23   ballot design is as if there is someone standing next to the

24   voter who just nudges that person a little bit on the shoulder

25   without them even realizing that they're being -- they've been

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1   nudged, and they pick the first one.  That's the -- that's the

2   first explanation is lack of information.

3         The second one, though, is importantly different.

4   This is the notion of ambivalence.  The idea here is that when

5   you think about the American electorate and the Arizona

6   electorate, that about a quarter of Americans call themselves

7   Republicans, about a quarter of Americans call themselves

8   Democrats, but about a half of Americans call themselves

9   Independents.  Those people are conflicted in the sense that

10  when they look at the menu of choices on any ballot, they see

11  pros and cons on both sides.  And so they are torn, and in some

12  races they're especially torn.

13        We know, for example, that in the 2016 U.S.

14  presidential election, the two major party candidates running

15  for president had the most negative ratings of major party

16  candidates running for president in the history of polling.

17  And so in a situation like that where voters are saying, not

18  this one, not this one, that's, again, a situation in which

19  somebody can know a great deal, but a little nudge on the

20  shoulder is enough to push a person toward that first listed

21  name.

22  Q.  Great.  And, Dr. Krosnick, I'd like to move now to focus

23  specifically on your work in this case.

24        What were you asked to do?

25  A.  In this case I was asked to prepare a review of the

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1    literature in academic research on the impact of candidate name

2    order on voting behavior and election outcomes.

3    Q.   And what did you conclude about that literature?

4    A.   Well, my conclusion is that that literature is remarkable.

5    That in many areas of science we are trying to figure things

6    out, studies disagree with each other, there isn't necessarily

7    consistently in conclusions, but that's not true here.

8         The literature on candidate name order is remarkable

9    in its consistency.  In fact, what -- what I have concluded in

10   looking at it is that from a variety of studies done in general

11   elections in the U.S., in primary elections in the U.S., and in

12   elections in more than a dozen other countries, we see clear

13   evidence of the prevalence of primacy effects overwhelming

14   often, statistically, significantly so.

15   Q.   And how did you come to that conclusion regarding the

16   literature?

17   A.   Well, step one of is reading the literature and reading the

18   studies carefully.  Step two for me was conducting my own

19   studies where I know for sure how I've done everything and I

20   can assure that the quality is of what I need.  And, in that

21   case, my own work produced results that looked very much like

22   what was in the literature.

23        But in the end for this report, I prepared what's

24   called a meta-analysis, M-E-T-A, hyphen, analysis.  Meta-

25   analysis is a standard scientific practice that involves

1  bringing together the results of a wide range of studies and

2  counting up the -- what the results say and analyzing them as a

3  group.  So, in other words, instead of reading only one study

4  at a time, I'm saying, what does this entire literature show?

5           And what I found was that the literature offered more

6  than 1,000 tests of the impact of name order on voting

7  behavior.  And 84 percent that, I think, of those tests, were

8  showing a pattern in the direction of primacy, meaning that a

9  candidate got more votes when listed first on the ballot than

10  when listed later on the ballot.

11          And when that 84 percent is subjected to a test of

12  statistical significance, it comes out to be extremely highly

13  significant, meaning that there is a more than 99 percent

14  chance that this tendency toward primacy that appears in the

15  literature is real and prevalent.

16  Q.  Great.  And when you talk about statistic -- actually, one

17  second.

18          So what you're saying is that, based on that

19  84 percent, there is over a 99 percent likelihood that name

20  order effects are real?

21  A.  Absolutely.

22  Q.  Now, in addition to conducting a meta-analysis, you said

23  you actually reviewed the underlying name order effects

24  literature here; is that correct?

25  A.  Yes, it is.

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1    Q.   Has name order been studied extensively?

2    A.   It has been.   There are dozens of studies in the

3    literature, dating back to the 1950s at the earliest.   And the

4    -- those studies are remarkably consistent in their conclusions

5    even though their methodology has changed over time.

6    Q.   Now, are the over 1,000 unique tests you looked at enough

7    of a sample to draw a conclusion about primacy effects?

8    A.   The 1,000 tests is huge in science, absolutely, and the

9    consistency across them is remarkable as well.

10    Q.   And did all of those 1,000 tests show statistically

11    significant findings of primacy effects?

12    A.   No.   When you look at each individual test, each individual

13    candidate one at a time, it's as if you're looking at a small

14    planet very far away through a small telescope with some dirt

15    on the lens.

16        And what I mean by that is that -- and if you take one

17    race, you and me competing for dogcatcher here in Arizona, that

18    there is a -- what we would think of as a small effect, let's

19    just say a 2 percentage point advantage from being listed

20    first, that's in the numerator of the statistic that we

21    calculate, and we're comparing that to the denominator.

22        The way these tests are conducted, the denominator is

23    a function of the heterogeneity of, let's say, the precincts in

24    Arizona.   So, as it turns out in politics, there are some

25    precincts that are very homogeneous, they vote for Republicans

1    overwhelmingly often.  There are other precincts homogeneous on

2    the other end, they vote for Democrats overwhelmingly often,

3    and then there is precincts in between.

4           And because of that homogeneity, the variance in the

5    denominator of these tests is very large.  And that, as I say,

6    is as if the telescope is small and there is dirt on the lens.

7    So we can't be completely sure that that 2 percent is real with

8    one test of one contest with one pair of candidates.  But when

9    we put together a thousand tests with thousands of candidates,

10    and we see overwhelmingly often it keeps coming out that the

11    candidate first is doing better, that allows us to,

12    essentially, do a test with a very powerful telescope.

13           And that is, of course, exactly what scientists do.

14    What we've learned is that repeated measurement and replication

15    is the fundamental currency for determining whether something

16    is real.  And that's what we see in this literature.

17    Q.  Great.  And I believe you spoke about some of the methods

18    having changed over time.  Could you detail, I guess looking

19    broadly at the literature, what are the -- how have the methods

20    changed over time?

21    A.  Well, in the early studies before computers were developed

22    and the computers had impact both on the recording of votes on

23    the data gathering side and on the data analysis side, those

24    folks had lots of pieces of paper and they were counting

25    numbers.  What they reported was how many votes were cast for a

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1  candidate when his or her name was first versus when his or her

2  name was in another position.  That was about the best they

3  could do.

4         Now, over the decades we have much more sophisticated

5  statistics and we can more quickly process huge amounts of

6  data.  So recent publications are based on many more elections,

7  many more candidates, but they also statistically control for

8  potentially confounding factors to eliminate alternative

9  explanations.  And, more importantly, over the years we know

10 that there are -- for analyzing any one dataset, there are

11 multiple different types of statistics that could be used.

12        So just as when you walk into a hardware store, in the

13 hammer section there are a bunch of different size and weight

14 hammers, we also have variety of different statistics.  And

15 what we've seen in this literature recently is that it kind of

16 doesn't matter which hammer you use, you're going to reach the

17 same conclusion about the presence of name order effects.  So

18 we understand it all now much better than we did 30 or 40 years

19 ago because of these advances.

20 Q.  But it sounds like what you're saying is that those earlier

21 studies are still valuable, right?

22 A.  They're absolutely valuable because they show us the basic

23 patterns of results that we can now add into a meta-analysis

24 and allow us to reach an even stronger conclusion.  And, again,

25 the important point here is that we don't see these effects

1  showing up only in some states and not others.  We don't see

2  them showing up only in some types of elections and not others.

3  We don't see them only showing up in some years and not others.

4  We don't see them showing up only in some countries and not

5  others.  What we see is a pattern that's very, very general.

6  The effects get bigger and smaller under conditions that we

7  understand, but they're really prevalent.

8  Q.  And, Dr. Krosnick, I'd like to turn now -- do you

9  understand that the defendants in this case have retained Sean

10 Trende as an expert?

11 A.  I do understand that.

12 Q.  Have you read and analyzed the report submitted by

13 Mr. Trende in this case as it relates to your first report?

14 A.  I read the section of his report, which is a few pages,

15 pertaining to mine.

16 Q.  Is there anything in Mr. Trende's report that would make

17 you call into question any of your conclusions concerning the

18 literature about position bias?

19 A.  There is not.

20 Q.  Do you recall Mr. Trende's conclusion, ultimately,

21 regarding your literature review?

22 A.  I believe in the end he said he agreed with my assessment

23 of what the literature says.

24 Q.  So do you -- do you agree with that conclusion of his?

25 A.  I do.

1    Q.   Thank you.

2            Now, Dr. Krosnick, of the studies you reviewed, do any

3    focus solely on U.S. general elections?

4    A.   Yes, many do.

5    Q.   Is there a consensus in the literature regarding whether

6    name order effects exist in U.S. general elections?

7    A.   Yes, absolutely, there is.

8    Q.   And in what states have name order effects been found in

9    general elections?

10   A.   Well, so far name order effects, primacy effects in

11   particular, have been documented in Ohio, California, North

12   Dakota, New Hampshire, Colorado, Michigan, and Florida, and

13   maybe Illinois as well.

14   Q.   And are you aware of any studies that have been published

15   on name order effects in general elections in Arizona?

16   A.   I am not.

17   Q.   Does the lack of published studies on name order effects in

18   Arizona make you question whether primacy effects exist here?

19   A.   It really doesn't, because every time we look for these

20   effects, we see them in elections.  Arizona is a state that I

21   have learned much about.  My parents moved here more than ten

22   years ago and I've spent a considerable amount of time here.

23   Politics in Arizona has some unique features, but there is so

24   much of politics in Arizona that's the same as we see

25   everywhere else.  Everybody is reading newspapers, watching

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1    television, listening to the radio, talking to each other.

2    Candidates campaign with the same methods.  The substance of

3    discussion about policies and performance are the same.  There

4    is every reason to believe that Arizona is typical of politics.

5            And, as I've described earlier, the notion of name

6    order effects is a part of order effects more broadly.  And, as

7    far as I know, everybody in Arizona is human, and that,

8    therefore, suggests that we should expect to see those effects

9    here.

10   Q.   And I would like to turn to your own personal work.  Have

11   you, yourself, in fact, published studies on name order effects

12   in general elections in the United States?

13   A.   I have.

14   Q.   And what states have you published studies on?

15   A.   So my peer-review publications to date involve Ohio

16   elections, North Dakota elections, California elections, and

17   the paper that's under review now is documenting these effects

18   in New Hampshire.

19   Q.   I'd like to just focus on two of the states you've studied.

20   First, I believe you published the study in 1998 regarding Ohio

21   elections?

22   A.   I did.

23   Q.   And what did that study find, just broadly?

24   A.   I think we looked at about 108 elections in three counties

25   there.  And what we found was about the same pattern that I've

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1    described to you earlier, just about 85 percent of candidates

2    manifested more votes when listed first than when listed later

3    on the ballot, a highly, highly significant pattern.

4    Q.   And I believe you cite that study in your report that's

5    Exhibit 1.  Why do you think that primacy effects in Ohio are

6    informative about primacy effects in Arizona?

7    A.   Well, the nice thing about Ohio, from my point of view as a

8    scientist, is that Ohio has a procedure whereby they rotate

9    candidate name order from precinct to precinct.  So that means

10   in a race for president of the United States or governor, there

11   are thousands of precincts across the state, and those are what

12   we call the units of analysis.

13          And when name order is rotated by elections officials

14   across those precincts, that gives me a very strong telescope

15   with which to assess the presence of name order effects.  And

16   because they are so clearly prevalent there, they give me a lot

17   of confidence that they are occurring here as well.

18   Q.   And do you know, actually, whether Arizona has more low

19   profile nonpartisan races than Ohio?

20   A.   I do not.

21   Q.   Well, let's -- let's assume Arizona does have more low

22   profile nonpartisan races, would you expect higher or lower

23   primacy effects in Arizona?

24   A.   Well, the research that we've done suggests that in

25   nonpartisan races and in low profile races, name order effects,

1    and in particular primacy effects, become more prevalent and

2    stronger.  And so if there are more of those races in Arizona

3    than in Ohio, I would expect the prevalence and strength of

4    primacy effects here to be even greater than what we saw in

5    Ohio.

6    Q.  Great.  And I'd like to turn to California.  You said you

7    published -- I believe you published a study on California

8    elections in 2014?

9    A.  Yes.

10   Q.  Do you recall the years of the elections of California that

11   that study considered?

12   A.  So that study was focused on statewide office elections in

13   even numbered years between 1976 and 2004.

14   Q.  And do you recall if those years included a number of

15   elections with the substantial use of absentee ballots?

16   A.  Yes.  There were a substantial use, and the use of absentee

17   ballots in California has been growing over the years.

18   Q.  Did you have any hypothesis before that study about whether

19   absentee use would increase or decrease the prevalence of name

20   order effects?

21   A.  I did.  When we did that study, I speculated in advance

22   that perhaps it might be the case that absentee voters might

23   show weaker name order effects.  And I can explain why.

24           The notion here is that when somebody is standing in

25   line waiting at a voting booth to get in, cast their vote, get

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1    to work, people behind them putting some pressure on to get out

2    of there quickly, if they're feeling conflicted about

3    candidates or uncertain about how to vote, in that situation

4    maybe that nudge happens in a way that has more consequences.

5            Whereas, when somebody is sitting at home filling out

6    an absentee ballot, and there is no line and there is no rush,

7    one could imagine a situation where those voters take their

8    time and they're less nudgeable.

9    Q.   Now, you actually looked at the data underlying that

10   hypothesis.  And what did the data show?

11   A.   I did test that hypothesis, and it turned out I was wrong.

12   That, in fact, in the paper that we published in 2014, there is

13   a regression analysis that tests the impact of the presence of

14   absentee ballots and variety of other, what we call, moderator

15   variables.  And, as it turns out in that analysis, the presence

16   of absentee ballots had no impact on the size of name order

17   effects.

18   Q.   So, in fact, the conclusion of that study, which was cited

19   in Mr. Trende's report, was that substantial absentee voting

20   actually does not weaken name order effects?

21   A.   Correct.

22   Q.   And why do you think that is?

23   A.   Well, it appears that in those situations when people are

24   voting absentee, that they are also lacking information,

25   feeling ambivalent.  Extra time doesn't make all of that go

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1   away.  And it's the case that a small number of voters --

2   remember, we're not talking about huge numbers of people here.

3   We're talking about 2, 3, 4 percent on average, as large as 5

4   or 6 percent at the maximum -- end up being nudged.

5   Q.  Okay.  And, Dr. Krosnick, just to conclude one more time.

6   Do you think it's likely primacy effects have impacted Arizona

7   elections?

8   A.  Extremely likely.

9   Q.  And why?

10  A.  Because in situations like this with a very sizeable

11  scientific literature with more than a hundred scholars

12  studying the phenomenon in U.S. elections and abroad, when they

13  have studied more than a thousand tests of this phenomenon, the

14  prevalence of the effect is overwhelmingly frequent.  And, as I

15  say, it's a part of human nature, and so therefore it's

16  extremely likely to be happening, has happened in the past, and

17  will happen in Arizona elections in the future.

18  Q.  Great.  Thank you, Dr. Krosnick.

19          MR. GEISE:  No further questions, Your Honor.

20          THE WITNESS:  Thank you.

21          THE COURT:  Ms. O'Grady.

22                      CROSS-EXAMINATION

23  BY MS. O'GRADY:

24  Q.  Good morning, Dr. Krosnick.

25  A.  Good morning.

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 1   Q.  Now, you acknowledge that none of the studies you reviewed

 2   analyze the effect of ballot order in Arizona, correct?

 3   A.  Correct.

 4   Q.  And the studies that you included here include studies of

 5   nonpartisan elections, correct, in other jurisdictions?

 6   A.  Some of the elections that have been studied were

 7   nonpartisan elections.

 8   Q.  And primary elections, correct?

 9   A.  Some of the them were primary, yes.

10   Q.  So they weren't all general elections, correct?

11   A.  That's correct.

12   Q.  And none of the studies that you cite show a ballot order

13   effect in every election; is that correct?

14   A.  I can neither agree nor disagree.  I would have to look at

15   the papers to tell you the answer to that question.

16   Q.  So you don't know the answer to that?

17   A.  Right.  If you want to give me some papers, I can answer

18   for you, but I don't have individual paper, by paper memorized.

19   Q.  Okay.  Well, let's maybe -- the study of Ohio, you

20   referenced that study.  Do you remember that study?

21   A.  Well, there are multiple studies of Ohio.

22   Q.  Let's talk about the 1992 elections, the study of the 1992

23   elections.

24   A.  Thank you.  Yeah.

25   Q.  Okay.  And isn't it true that less than half of the races
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1    studied in that showed any statistically significant name order

2    effect?

3    A.    So I described earlier that when you look at one race at a

4    time, that's like using a small microscope with dirt on the

5    lens.  And in that case, 48 -- sorry, I'll finish -- 48 percent

6    of the candidates who we examined in those cases manifested

7    statistically significant trends toward primacy, but nearly

8    90 percent manifested differences in the direction of primacy,

9    showing the overwhelming prevalence of those effects.

10   Q.    Less than half was statistically significant?

11   A.    As I said, when --

12   Q.    Do you agree?

13   A.    -- when analyzed individually, right, that's correct.

14   Q.    And not all the studies that you reference in your report

15   were peer-reviewed published studies, correct?

16   A.    You'd have to remind me if there are some that are not.

17   Q.    Well, for example, there is an undergraduate thesis that

18   you cite?

19   A.    Thank you.  Yes, uh-huh.

20   Q.    So that was not peer-reviewed, correct?

21   A.    Not exactly.  Undergraduate theses at Stanford are reviewed

22   by faculty.

23   Q.    Well, and that was the study of the Ohio 2004 election,

24   correct?

25   A.    Correct.

1   Q.  And the Vermont House study, that was also an unpublished

2   study; is that correct?

3   A.  I'm not remembering where that's published, you could

4   remind me.  I mean, it's someplace, right, it's -- I don't

5   remember where.

6   Q.  Let's look at page 17 of your report, footnote 27,

7   unpublished manuscript.

8   A.  Right, but it's described somewhere that is published.

9   Q.  But not peer-reviewed?

10  A.  That's what I'm telling you I'm not sure of.  I think it

11  may have been that the outlet through which I learned about

12  that work was subjected to peer review.

13  Q.  And the New Hampshire --

14          THE COURT:  Ms. O'Grady, let me just back up.  I'm

15  lost as to where the report that you were referring to, the --

16  is that the 2004 -- where is it on the exhibit?

17          MS. O'GRADY:  Yes.  I'm looking at his -- his --

18  Dr. Krosnick's report.

19          THE COURT:  Yes, Exhibit 1.

20          MS. O'GRADY:  And on page 17, and footnote 27.

21          THE COURT:  All right.  And let me just, once again,

22  say that on my exhibit --

23          MS. O'GRADY:  Oh.

24          THE COURT:  -- it is on page 18 --

25          MS. O'GRADY:  Thank you, Your Honor.

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 1          THE COURT:  -- of Document 15-2, so you'll just have

 2    to bear with me as I keep up.

 3          MS. O'GRADY:  Thank you, Your Honor.

 4    BY MS. O'GRADY:

 5    Q.  And the New Hampshire 2016 report that you reference in

 6    your study --

 7    A.  Right, that's --

 8    Q.  -- that's also an un -- you describe it in your report as

 9    an unpublished report being drafted, correct?

10    A.  That's the work that's under review now at a journal.

11    Q.  And so the only studies of general elections -- tell me if

12    this is correct -- Ohio 1992 and 2000, California, North

13    Dakota, is that correct, in published studies?

14    A.  I would have to review the studies to answer your question.

15    Q.  Can you think of any others?

16    A.  I am happy to go through here, if you would like, you know,

17    I would need to look at --

18    Q.  If you need to refer back to your report, that's fine.

19    A.  I'll see if I can determine it from there.

20    Q.  Just for ease of reference, your general election studies

21    are on -- begin at page 12.

22    A.  Could you just repeat the list of states that you

23    mentioned?

24    Q.  I mentioned Ohio in 1992 and 2000, California, North

25    Dakota.
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1    A.   Thanks.   So if you would like to turn in my report -- I'm

2    going to use the page numbers in the lower right-hand corner

3    that, I think, Your Honor, you were relying on -- page 17 of

4    148.

5          So in the bottom paragraph of the main text on that

6    page, the first sentence says, Brockington 2003 found evidence

7    of primacy effects in lower profile municipal elections as

8    well, combining across city council elections in Peoria,

9    Illinois.   So we would add Illinois to your list.

10    Q.   And, Illinois, you're talking about lower profile municipal

11    elections.   Let's talk about things that have statewide general

12    elections.   That's what I'm focusing on.

13    A.   Ah, thank you.   So the term -- we -- when we use the term

14    general elections, that is the category other than primary.

15    Q.   Okay.

16    A.   So we have primaries and general elections.

17    Q.   I'm interested in partisan general elections.

18    A.   So that would be these --

19    Q.   Well, let's use statewide, if that's an additional

20    clarification.   I want to get elections that are similar to

21    what we're considering in this case.   Okay?

22    A.   I see.   Okay.

23          So at the top of page 18 of 148, Stuart 2008 analyzed

24    races for the Vermont House of Representatives.   You would say,

25    even though everyone in the State of Vermont is represented in

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 1    the House, you would prefer not to call those statewide races.

 2    Is that the way you're thinking of it?

 3    Q.  So that's another -- that's -- you would count Vermont on

 4    the list of where there has been a study?

 5    A.  Sorry, I'm just trying to understand what --

 6    Q.  Go ahead.

 7    A.  -- what category you're asking me --

 8    Q.  Go ahead.  Any other states?

 9    A.  Okay.

10          THE COURT:  I think we're trying to identify the

11    definition of what the two of you are referring to as a general

12    election.

13          THE WITNESS:  Right.  So --

14    BY MS. O'GRADY:

15    Q.  Partisan general election.  And I -- I included statewide

16    because that's been at issue in this case, but I -- but I see

17    your reference to Vermont.

18    A.  Yeah.  So why don't I just answer the question the way I

19    interpret it, and then we can clarify in a moment.

20          So, also on page 18 of 148, there is a description of

21    findings of general elections in Colorado and Michigan.  So if

22    you wish to narrow down the focus only to statewide offices,

23    that I don't know from memory.  I would have to look back at

24    the studies.

25    Q.  And isn't it true that Colorado there is a study that found
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1  no primacy effect; is that correct?

2  A.  Yes, there is.

3  Q.  And isn't it true there also is a published study by

4  Dr. Alvarez in California that found no primacy effect,

5  correct?

6  A.  Are you speaking of the study described at the top of

7  page 19 of 148 of Exhibit 1, or whatever this is?

8         Exhibit 1, yeah.

9  Q.  Yes.

10 A.  Okay.  Thank you.

11        So what it says there is that the authors did not

12 report tests of name order effects for Republican candidates,

13 and they only described tests for Democratic candidates.  And

14 their investigation yielded evidence of 32 statistically

15 significant primacy effects.  So I would say your

16 characterization was not correct.

17 Q.  Well, haven't you characterized the study in that manner,

18 whether there -- as having a report that is not observed

19 significant name order effects?

20 A.  I -- I'm not sure what you're referring to.  This

21 description here is what I'm here to testify about today.

22 Q.  I'm looking at your study from 2014, The Impact of

23 Candidate Name Order on Election Outcomes in North Dakota.

24 Would you like me to refresh your recollection?

25 A.  I'm happy to look at the paper, if you'd like to give it to

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1    me.

2    Q.   I can pull that up, impeachment Exhibit 13.

3         And let's go to table 1.  And I'm looking at Alvarez

4    2006, all statewide races.  And then the column that says, were

5    significant name order effects observed, and there it says they

6    were not observed.

7    A.   Right.  So I've described to you here in my report an

8    accurate description of what that article shows.

9    Q.   Okay.

10   A.   That's -- when I say here, I mean Exhibit 1 in this case.

11   Q.   And you also omitted studies that didn't have -- didn't

12   report proper statistical significance tests, correct, in

13   this -- in this table?  That's what your note indicates,

14   correct?

15   A.   That's what the footnote says, correct.

16   Q.   And so as of 2014, these were the existing ballot order

17   studies that you acknowledge in the state of the literature,

18   correct?

19   A.   These are some of the studies.

20   Q.   But those were the only ones you chose to cite in this

21   public peer-reviewed article, correct?

22   A.   Those are the ones that appear in this table, correct.

23   Q.   And didn't you see a need for more studies of general

24   elections in the United States?

25   A.   I'm sorry, you need to be more specific in your question.

1   Q.  Didn't you see a need for more studies of general elections

2   to add to this literature?

3   A.  I'm sorry, when are you referring to?

4   Q.  In this published -- in 2014.

5   A.  I see.  Yeah.  So the idea here of scientific investigation

6   is that we are always interested in collecting more data.

7   There is no time at which we decide we don't need more data.

8   And we reason -- the reason we are always supportive of more

9   data collection is because the more we have, the more we can

10  understand the conditions under which effects are larger,

11  conditions under which effects are smaller, conditions under

12  which effects don't occur at all.  And so it's always helpful

13  to have more data to evolve our theories.

14  Q.  If we could look at your article here that you published.

15  And let's go to section 1.2, the need for replication, and that

16  opening paragraph, and just that last -- let's go to the next

17  page, if we may.  And, again, the opening paragraph at the top

18  of the page.  And, specifically, the last sentence there:

19  Therefore, in order to have confidence in the generalized

20  ability of the name order effect evidence from other states

21  that employ other name order assignment would be desirable.

22         So you saw a need for additional research back in

23  2014, correct?

24  A.  I see that same need today.

25         MS. O'GRADY:  I'd like to move to admit this article

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1   which we had marked as impeachment Exhibit 13.

2   BY MS. O'GRADY:

3   Q.   And you mentioned one study --

4            THE COURT:  Well, wait.  Wait.

5            MS. O'GRADY:  I'm sorry.

6            THE COURT:  Is there an objection?

7            MR. GEISE:  No objection, Your Honor.

8            THE COURT:  Yes.  Exhibit 13 is admitted.

9   BY MS. O'GRADY:

10  Q.   And in direct you mentioned one study of the impact of

11  absentee voting on ballot order issues.

12  A.   I described how in our 2014 publication we examined the

13  impact of absentee voting, correct.

14  Q.   And which 2014 study are you referring to?

15  A.   First author of that paper is Pasek, P-A-S-E-K.

16  Q.   Are you aware of any other studies of the impact of mail-in

17  voting on ballot order effect?

18  A.   There may, I don't -- if there was work of that sort, we

19  may have cited it in that 2014 paper.  You could hand me that

20  paper, if you like, but I'm not remembering other studies at

21  the moment.

22  Q.   So you mentioned 1,061 studies of name order, and you're

23  only aware of one that studies the impact of absentee ballots,

24  correct?

25  A.   That's correct.

1  Q.  And nothing that studies Arizona, correct?

2  A.  Correct.

3  Q.  And do you acknowledge that there is less impact of name

4  order in general elections than in other types of -- partisan

5  general elections, where the partisan identifier is on the

6  ballot?

7  A.  No.  I wouldn't -- I wouldn't acknowledge that.

8  Q.  You would not acknowledge that the -- there is less of a

9  ballot order effect observed in those types of elections?

10  A.  No.

11  Q.  Page 39 of your report.

12  A.  Is that 39 of 148 on the right-hand side?

13  Q.  The ballot order is more likely to impact races where

14  candidates do not have party affiliations, correct?

15  A.  Right.  You're not -- yeah.  I think there is some

16  confusion here, so let's talk about the way you characterized

17  the statement earlier versus now.

18         So earlier you said are effects weaker in partisan

19  races than nonpartisan races, I think; is that right?  And

20  what --

21         THE COURT:  The question was:  Is there less of an

22  impact?

23         THE WITNESS:  Right.

24         THE COURT:  Okay.

25         THE WITNESS:  And so that -- what's important here is

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1    that the way you phrased that is a general statement:  All

2    partisan races versus all nonpartisan races.  What we study is

3    the impact of partisanship being listed on the ballot,

4    controlling for other features of the races.  And the reason

5    for that is because there are other factors, for example, the

6    amount of publicity that a race has received in the news that

7    makes voters more educated and reduces the strength of name

8    order effects.  The amount of roll off of low information

9    voters in the race and so on.

10          So in, for example, that 2014 paper that we're

11   discussing, regression analysis is conducted in order to

12   isolate the impact.  And so the statement that I have made, and

13   that I feel very comfortable making, is that listing the party

14   affiliation of the candidates on the ballot, all other things

15   equal, reduces the size of the primacy effects.  And since you

16   left that phrase "all other things equal" out of your question,

17   I could not agree with you.

18          But my findings do indicate that, all other things

19   held constant across races, that adding the partisan

20   affiliations of the candidates next to their names on the

21   ballot does weaken the size of primacy effects.  It does not

22   eliminate them, because we have many high visibility, high

23   profile races, such as the race between Donald Trump and

24   Hillary Clinton for president in 2016, where we saw a 1.5

25   percentage point primacy effect.  So it isn't the case that

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1  listing party affiliations eliminates primacy effects, it just

2  weakens them on average.

3  BY MS. O'GRADY:

4  Q.  You have no studies, again, of the impact in Arizona,

5  correct?

6  A.  Yes, that's correct.

7        MS. O'GRADY:  Thank you.

8        THE WITNESS:  Thank you.

9        MR. GEISE:  Thank you, Your Honor.  Just very brief

10  redirect.

11                  REDIRECT EXAMINATION

12  BY MR. GEISE:

13  Q.  Dr. Krosnick, you know, the DNC is a plaintiff in this

14  case?  Are you aware of that?

15  A.  I was -- yes.  I am aware of that, yeah.

16  Q.  Does, just from your knowledge, does the DNC only care

17  about statewide races?

18  A.  I have no knowledge one way or another, but I assume that

19  they care about all races.

20  Q.  All races where Democrats run, would you assume?

21  A.  Seems reasonable.

22  Q.  All right.  Now, I would like to actually turn -- I believe

23  it was -- and if I could pull it up -- Exhibit 10 -- it's

24  marked as Exhibit 107, your study on North Dakota, and just

25  pull up -- I believe you were shown table 1.

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1                Would there be a way to put that on the screen?  If

2     not, I can hand it to you.

3                And I believe the Court has a copy too.

4                If you look at table 1 on Exhibit 107.

5                THE COURT:  Well, I don't --

6                THE WITNESS:  Do you want this copy?

7                MR. GEISE:  I'm sorry, Your Honor, it's an impeachment

8     copy so that's the -- it's an impeachment exhibit, so that's

9     the only one I have.

10    BY MR. GEISE:

11    Q.  The vast majority -- I don't know, do you have it in front

12    of you, Dr. Krosnick?

13    A.  No, but go ahead and ask the question.

14    Q.  The vast majority of the studies on that table show

15    observed position bias effects, don't they?

16    A.  Yes, they do.  I remember that.

17    Q.  Are you, in fact -- are you -- you are aware of studies

18    that have found no position bias effects, right?

19    A.  Yes.

20    Q.  Does that make you more or less confident in the existence

21    of candidate name order effects?

22    A.  Well, actually, the consistency of findings across the

23    literature in general, being accompanied by a small number of

24    exceptions, is exactly what we expect to see in a solid

25    scientific literature.  In other words, if every study and

1   every test always showed exactly the same thing over and over

2   again, that's not what normal science looks like.

3          Whereas, when we see the overwhelming prevalence, with

4   some exceptions, as we see here, that's the way normal

5   scientific literature looks.  And bear in mind, of course, that

6   there are -- there is reason to believe that when individual

7   studies are done, we know that the size of a name order effect

8   in a particular race between you and me, that size of that

9   effect, even though it's extremely likely to happen, will be

10  bigger or smaller in some cases.  Depending upon

11  characteristics of the race, characteristics of the voters, the

12  publicity of the candidates, the design of the ballot, and all

13  of the factors that I outlined in my report.

14         And so the fact that there would be a few examples in

15  which there is no name order effect, that is what we would

16  expect to see in the literature where we have a variety of what

17  we call moderators making the effect bigger and smaller.

18  Q.  Are you aware of any examples of, I would say relatively

19  commonly accepted scientific knowledge, where there are studies

20  that find no effect?

21  A.  Absolutely.  I mean, so one -- most good literatures are

22  like that.  One prominent example is the research on cigarette

23  smoking.  Starting in the 1960s, the scientific community came

24  together through a report of the U.S. Surgeon General telling

25  the United States and the rest of the world that scientists had

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 1    concluded that cigarette smoking caused cancer and other health

 2    problems, even though no experiment had ever been done randomly

 3    assigning some people to smoke and some people not to smoke,

 4    which would be the strongest scientific design.

 5            So through observational data of many times,

 6    understanding the physiological mechanisms, just as we

 7    understand the cognitive mechanisms here, that literature

 8    reached a consensus that is so widely accepted that, not only

 9    is it accepted among medical professionals, but it's accepted

10    among legislators, because public policy now reflects the

11    belief that public smoking is dangerous to public health.

12            And if you look at that literature, there are

13    certainly a few studies that failed to find the relationship,

14    even though we know it's real and prevalent.

15    Q.   Just to turn to absentee voting.  So the only study you're

16    aware of that examined the effect of absentee voting on name

17    order found that it had no impact?

18    A.   That's the only study I'm remembering today.

19    Q.   And counsel didn't give you any other study other than --

20    did she?

21    A.   No, I have -- that's -- I have not been given any others to

22    consider.

23            MR. GEISE:  All right.  Thank you, Your Honor.

24            Thank you, Dr. Krosnick.  No further questions.

25            THE COURT:  Thank you, sir.  You may step down.
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1        THE WITNESS:  Thank you.

2        THE COURT:  Do you have any other witnesses?

3        MS. KHANNA:  No further witnesses, Your Honor.

4        THE COURT:  All right.  Why don't we go ahead and take

5   our -- a brief break.  We'll stand in recess for about

6   15 minutes.

7        And then let me just inquire, is it the -- the only

8   witness that we have is Dr. Trende; is that right?

9        MS. FRIDAY:  That's correct, Your Honor.

10       THE COURT:  Okay.  All right.  And so I think we're

11  within our time frame, if you all agree.  But, in any event,

12  we'll be in recess for 15 minutes, and so we can reconvene

13  then.  Thank you.

14       (Recess, 10:21 a.m. - 10:38 a.m.)

15       THE COURT:  Ms. O'Grady, you may call your witness.

16       MS. O'GRADY:  We call Mr. Sean Trende, and Emma

17  Cone-Roddy is going to handle the examination.

18       (The witness was duly sworn.)

19       COURTROOM DEPUTY:  Please state your full name and

20  spell your last name.

21       THE WITNESS:  Sean Patrick Trende, S-E-A-N,

22  P-A-T-R-I-C-K, T-R-E-N-D-E.

23       THE COURT:  Ms. Cone-Roddy, you may begin.

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 1                    DIRECT EXAMINATION

 2    BY MS. CONE-RODDY:

 3    Q.  Mr. Trende, can you just state your name again for the

 4    record.

 5    A.  Sean Patrick Trende.

 6    Q.  Did you prepare an expert report in this case, Mr. Trende?

 7    A.  I did.

 8            MS. CONE-RODDY:  Your Honor, may I approach?  This is

 9    just a copy.

10            THE COURT:  Yes.

11            MS. CONE-RODDY:  Mr. Trende's expert report and the

12    two other expert reports.

13    BY MS. CONE-RODDY:

14    Q.  Mr. Trende --

15            THE COURT:  I'm sorry, did you say and the other two

16    expert reports?

17            MS. CONE-RODDY:  Yes, the two reports that he was

18    rebutting, just so he can reference them.

19            THE COURT:  All right.  Thank you.

20    BY MS. CONE-RODDY:

21    Q.  Mr. Trende, can you identify Exhibit 101 for me?

22    A.  This is the expert report of Sean P. Trende.

23    Q.  And can you turn to page 48 of that exhibit.

24    A.  Yes.

25    Q.  Is this a current copy of your CV?
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1    A.   It is.

2    Q.   Is it a complete and accurate summary of your educational

3    and professional experience?

4    A.   Yes.

5    Q.   Can you briefly summarize your educational background for

6    me.

7    A.   So I received a bachelor's from Yale University in 1995,

8    with a double major in history and political science.  In 2000

9    -- or 1998 I went to law school at Duke, and I graduated with a

10   J.D.

11        At the same time, Duke offered a program where

12   students could -- law students could earn a master's degree at

13   the same time, with a little bit of extra coursework, so I

14   earned a master's degree in political science from Duke.

15        I went back to graduate school in 2016, and I have

16   since completed a master's degree in applied statistics at, I

17   will have to say, The Ohio State University, and I'm expecting

18   a Ph.D. in political science either next year or the year

19   after.

20   Q.   In your applied statistics degree at OSU, can you just tell

21   me what that is?

22   A.   Yeah.  So the master's of applied statistics program is an

23   opportunity for students to take courses within the Department

24   of Statistics.  It requires about 30, I think 33 credit hours

25   of statistics classes in the Department of Statistics.  I think

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1    I ended up taking in excess of 40.

2         And the classes range from a couple of classes on

3    statistical theory.  There is an entire class dedicated to

4    regression analysis that we have to take.  I took a class on

5    machine learning, a class on logistic regression analysis, some

6    classes on design of experiments and nonparametric statistical

7    work, a variety of other statistical classes.

8    Q.  For your political science degree, can you describe a

9    little bit to me about what that degree is, the current one?

10   A.  So this is a Ph.D. in political science.  You're required

11   to take 80 credit hours in political science, although the bulk

12   of that will be your dissertation.  You get course credit for

13   doing dissertation research and writing.  I completed my

14   coursework for my political science degree in my second year.

15   Q.  Can you turn to page 2 of your report.

16        In paragraph 10 you mention that you have passed

17   comprehensive examinations.  Can you just tell me what that

18   means?

19   A.  So comprehensive examinations are examinations that -- that

20   you have to take.  So I took them for the -- they're required

21   for the master's degree in applied statistics, so I took a set

22   of just pure statistics comprehensive exams for that degree.  I

23   also took comprehensive exams for my doctoral candidacy.

24   You're required to take them at the end of your coursework and

25   that's what allows you to proceed to the dissertation phase.

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 1              THE COURT:  I'm going to stop you there, because my

 2     exhibit notebook is not the same.  I don't have this page.  And

 3     so let me just see what it is you're looking at.

 4              We were looking at, originally, his CV at

 5     Document 30-1, which is page 48 --

 6              MS. CONE-RODDY:  Yes, Your Honor.

 7              THE COURT:  -- of your exhibit book.  The next page --

 8              MS. CONE-RODDY:  Oh.

 9              THE COURT:  -- says real clear politics column.  The

10     next page says publications from the last ten years.  So I

11     don't have whatever it is that --

12              MS. CONE-RODDY:  Sorry, Your Honor.  I wanted to go

13     back to page 2 of his report.

14              THE COURT:  Page 2 of the report.  Okay.

15              MS. CONE-RODDY:  I apologize for not being clear about

16     that.

17              THE COURT:  Okay.  There -- okay.  I'm with you now.

18              Okay.  You can continue.

19     BY MS. CONE-RODDY:

20     Q.  Mr. Trende, are you required to do any teaching for your

21     Ph.D. program?

22     A.  Yes.  I was asked to begin teaching in the third year of my

23     program, which is unusual, but they had a need for it.

24     Q.  What classes have you taught?

25     A.  So, actually, before I even began my coursework, my second
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1   year as a, at the time, a doctoral student, I was asked to

2   teach a class on mass media in American politics at Ohio

3   Wesleyan University.  But then at Ohio State I taught the large

4   intro to American politics class for three semesters.  This

5   semester I'm teaching voter turnout and participation.

6   Q.  Can you tell me a little bit about the voter turnout and

7   participation class?

8   A.  So the voter turnout and participation class is a class

9   that hasn't been taught in the last six years that I'm

10  resurrecting.  I have chosen to divide it into two halves.  The

11  first half is a theoretical half which talks about, you know,

12  some of the peer-reviewed literature on what causes people to

13  decide to vote and not to vote, what factors influence vote

14  choice.  The second half of the class focuses on, kind of,

15  modern issues and debates in political science about voter

16  turnout and behavior.

17  Q.  Does any of your teaching involved statistical analysis?

18  A.  Yes.  So for undergrads we tend to try to keep things at a

19  higher level, but for the voter turnout and participation class

20  and the mass media class at Ohio Wesleyan, I think higher level

21  classes should at least be taught from the peer-reviewed

22  literature and not from a textbook, and so we do use the

23  peer-reviewed literature.  And I try to explain what's going on

24  in the literature at a level that the undergrads can

25  understand.

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1    Q.   Are you a full-time student currently?

2    A.   Yes.

3    Q.   Do you do anything else besides your coursework?

4    A.   Yes.  I'm also the senior elections analyst at Real Clear

5    Politics.

6    Q.   What does -- what does that entail?

7    A.   So being the senior elections analyst at Real Clear

8    Politics entails following U.S. elections, commenting on them

9    and trying to explain what's going on with elections at a level

10   that readers can understand.

11   Q.   Does that work require you to use any statistical analysis?

12   A.   Yes, all the time.  Regression analysis is the basic

13   toolkit of anyone trying to do large scale understanding of

14   datasets.  When I'm trying to build a statistical model, if I'm

15   trying to explain what's going on at a high level and the data

16   are available, absolutely.

17   Q.   If you turn to page 3 of your report, it mentions that

18   you're the author of a book called, The Lost Majority, Why the

19   Future of Government is Up for Grabs and Who Will Take It.

20   What can you -- can you just tell me what that book is about,

21   generally?

22   A.   So that book talks about political coalitions in the United

23   States and how they've changed over time.  So I took a look

24   from the 1920s to the present as to how political coalitions

25   have shifted, look at how -- how demographics have interacted
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1    with elections in the United States, and make some statements

2    about what -- whether realignment theory is a good theory or

3    not.

4    Q.   Does -- did that book involve statistical analysis?

5    A.   It does.  I use regression analyses throughout it.

6    Q.   Mr. Trende, if you turn to page 5 of your report.  You

7    start here talking about some of your previous expert work.

8          Have you been admitted as an expert before to testify?

9    A.   Yes.

10   Q.   Have you testified about statistical analysis when you've

11   been admitted?

12   A.   Yes.

13   Q.   Have you filed other reports in cases where you haven't

14   testified?

15   A.   Yes.  I've -- there have been cases where I filed a report

16   but wasn't called.

17   Q.   Did those reports involve statistical analysis of

18   elections?

19   A.   Yes.

20        MS. CONE-RODDY:  Your Honor, I would like to proffer

21   Mr. Trende as an expert in the statistical analysis of

22   elections.

23        MS. FROST:  Your Honor, we object and we have a

24   pending Daubert motion.  At this point, normally I would ask to

25   do voir dire, but given the timing, if Your Honor prefers, I

1    can build it into the cross if you want to reserve, and we can

2    argue the motion next week.  It's entirely up to you.

3            THE COURT:  That's fine.  That's how I would like to

4    proceed in that way.  It will save a little bit more time, and

5    then you can -- we can address the subject of your motion next

6    week.

7            MS. FROST:  Thank you, Your Honor.

8            THE COURT:  All right.  You may proceed.  I will

9    reserve the ruling.

10           But I guess I -- just to follow up, and just because

11   it's on my mind, you last testified here that you have authored

12   reports that were introduced in court cases, and I think you

13   said you testified; is that correct?

14           THE WITNESS:  In some cases I testified, in other

15   cases either the case settled or they decided not to call me as

16   an expert witness at trial.

17           THE COURT:  And do you recall when the last case you

18   testified in was, or what it was, if you recall?

19           THE WITNESS:  It would have either been the political

20   gerrymandering case in North Carolina, the Rucho case, or the

21   Feldman case here in Arizona.

22           THE COURT:  Remind me of the year of the Rucho case.

23           THE WITNESS:  It was recently decided at the Supreme

24   Court, but I don't -- I, honestly, don't remember the year that

25   I testified.

UNITED STATES DISTRICT COURT

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1               THE COURT:  Okay.  All right.  That's fine.  Thank
2      you.
3               And the Feldman case here?
4               THE WITNESS:  Yes, Your Honor.
5               THE COURT:  And that was early 2000, wasn't it, or am
6      I thinking of a different case?
7               THE WITNESS:  I think the Feldman case was -- the
8      trial was 2017 or 2018, 2017.
9               THE COURT:  Okay.  All right.  I was thinking of a
10     different case.  All right.  Thank you.
11     BY MS. CONE-RODDY:
12     Q.  Mr. Trende, in the interest of time, I don't want to walk
13     through your entire report, I just want to focus on a few
14     things.
15               Could you turn to page 13 of your report.  And you
16     start paragraph 41 by saying, this leads to the second problem
17     with the Rodden report.  What is the problem you're talking
18     about here?
19     A.  So here we're talking about the second, kind of, cluster,
20     so to speak, of problems that I identified with the Rodden
21     report, which is the failure to take account of the clustering
22     or lack of independence of the observations.
23     Q.  What does it mean for an observation to be independent?
24     A.  So you can think of it in terms of coin tosses.  This can
25     illustrate temporal independence and spatial independence.  If
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1    I flip a coin once and it comes up heads, it tells you

2    absolutely nothing about whether the next coin toss is going to

3    come up heads or tails.  Those are independent.  And that's a

4    temporal independence that I'm describing.

5            If I toss a coin and it comes up heads and at the same

6    time you toss a coin and it comes up -- if I toss the coin and

7    it comes up heads, it tells me nothing about whether the next

8    coin toss is going to come up heads or tails, and that's

9    spatial independence.

10           And, ideally, when you're doing OLS regression

11   analysis, you want all of your observations to be independent

12   of each other.  Knowing the value in one observation shouldn't

13   tell you anything about the outcome in your other observations.

14   Q.  Why do you want that?

15   A.  Because it's an assumption of OLS regression for

16   mathematical reasons.

17   Q.  What happens if that assumption isn't met?

18   A.  If your assumption isn't met, and this is mentioned in some

19   of the articles that I cite, it causes you to find things are

20   significant when they are not significant.

21   Q.  What are the observations we're talking about when we talk

22   about Dr. Rodden's analysis?

23   A.  So in Dr. Rodden's analysis, the observations are the

24   elections observed at the county level for the variety of

25   offices and years that he explores.

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1    Q.  And are election results in his analysis independent of

2    each other?

3    A.  I don't believe so.  I think if you go to -- well, I don't

4    believe so.

5    Q.  Why not?

6         MS. CONE-RODDY:  And could we just put up page 10 of

7    Exhibit 3, which is Dr. Rodden's report.

8         I'm sorry, page 11.

9         THE WITNESS:  Okay.

10   BY MS. CONE-RODDY:

11   Q.  Can you identify this table for me?

12   A.  Yes.  This is figure 1 of Dr. Rodden's first report.

13   Q.  Does this figure -- what does this figure make you think

14   about?  Does this figure make you think about anything about

15   independence?

16   A.  No.  So if the elections and the application of the

17   treatment were independent of each other, you would expect to

18   see kind of a patchwork of blue and red here.  But as

19   Dr. Rodden suggests on the next page, in -- in a lot of these

20   counties there is little or no variation in how -- in how these

21   counties present.

22        So you can see in Apache County, the treatment is

23   always Democrats going first, because the Democrat has always

24   carried the gubernatorial race in the previous election.  And

25   so these aren't independent.  You can see other clusters, like

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1    Coconino only voted for the Republican in one instance, same

2    with Santa Cruz.  And there are some counties that the opposite

3    is true, they almost always vote for the Republican.

4            MS. CONE-RODDY:  Could we go to page 15 of

5    Dr. Rodden's report.  There is a table 3 there, so one page

6    back, or map 1.  I'm sorry.

7    BY MS. CONE-RODDY:

8    Q.  Does this -- what does this -- does this map lead you to

9    draw any conclusions about the independence of election

10   results?

11   A.  So, again, if you had spatial independence of the

12   elections, you would expect to have a patchwork of blue, red,

13   and purple, but you can see a cluster of very red counties in

14   the northwestern and the western portion of the state.  You see

15   the strip of purple counties running down the center.  So it's

16   reasonable to try to account for that spatial correlation,

17   especially in neighboring counties.

18   Q.  Are election results independent within a county?

19   A.  No.  So if I tell you what the -- if I -- even by telling

20   you that you're in Apache County, you probably reasonably

21   narrowed the possible outcomes for Republicans to being below

22   50 percent, because it's extremely unusual for a Republican

23   candidate to carry Apache County.  And there are counties where

24   the opposite, at lease least in recent years, are true.

25   Q.  Are there ways in statistical analysis you can account for

203

1    observations not being independent?

2    A.   There is a variety of ways to try to account for those.

3    Q.   Did Dr. Rodden do anything to account for the relationship

4    between election counties in a single election -- elections in

5    a single county in a single election?

6    A.   He did not.

7    Q.   Did Dr. Rodden do anything to account for the relationships

8    between county election results over time?

9    A.   He did not.

10   Q.   Did Dr. Rodden do anything to account for the relationship

11   between election results between two counties?

12   A.   He did not.

13   Q.   In your opinion, by not doing anything to account for these

14   relationships, what does that mean for Dr. Rodden's report?

15   A.   It renders the results unreliable, because he is going to

16   tend to produce standard errors that are too small.  Put in,

17   kind of, plain English, that means he's going to find that

18   things are statistically significant when they are not, because

19   his regression analysis is going to believe it has more

20   independent observations than it actually has.

21   Q.   Are you aware of any academic literature that discusses

22   this problem in the elections context?

23   A.   There -- there is a pretty robust discussion of this in a

24   variety of contexts, but, in particular, the discussion about

25   clustering your robust standard errors.

1    Q.   Can you name any of those articles for me?

2    A.   So one article that I actually appended as an exhibit to my

3    report, because I think it's fairly -- a fairly important

4    statement, is the Robert Erikson and Lorraine Minnite article

5    from 2009 modeling problems in the voter identification, voter

6    turnout debate.

7    Q.   What did that article have to say about clustering?

8    A.   So that article is written in the context of the debate

9    over the effect of voter identification laws.  And there are

10   political scientists who are taking current population survey

11   data of individuals, running their regression analyses and

12   saying they had 60,000 observations.

13         And what Erikson and Minnite say is that that isn't

14   true.  You really only have 50 observations since the treatment

15   isn't applied at the individual level.  It's not like each

16   individual person randomly gets subjected to a photographic ID

17   law or not.  And they say in that situation, since the

18   treatment is applied at a higher level at the states, you have

19   to cluster your standard error by states or your findings will

20   be incorrect.

21   Q.   Just for me, can you just explain what a treatment is?

22   A.   Yes.  So treatment is a way of thinking -- a way of -- it's

23   a term of art for just the thing we're interested in.

24   Q.   What is the treatment effect here in Dr. Rodden's analysis?

25   A.   So the treatment here would be whether Republicans go first

1    on the ballot or whether Democrats go first on the ballot.

2    Q.   And where is that applied?

3    A.   It is applied at the county level.

4    Q.   Mr. Trende, are you familiar with an article entitled, When

5    You Adjust Standard Errors for Clustering, by Alberto Abadie,

6    et al.?

7    A.   Yes, I am.

8    Q.   Did you cite that article in your report?

9    A.   I do.

10   Q.   What is this article about?

11   A.   So this article is a recent article kind of weighing in on

12   the debate about when it is you're supposed to cluster standard

13   errors and when you're not supposed to cluster standard errors.

14   Q.   What does this article conclude?

15   A.   So this article concludes that when you -- there is a

16   couple of conclusions.  And a lot of it is written in the

17   context of survey sampling, such as exit polls.  But for

18   experiments it says, if you do not have fixed effects applied,

19   if there is clustering in the assignment of the treatment, you

20   must cluster your standard errors.

21   Q.   What is a fixed effect, just so I'm clear?

22   A.   So the fixed effects, for example, here in this -- in

23   Dr. Rodden's approach --

24            MS. FROST:  Your Honor, I'm going to object to his

25   testimony about fixed effects.  That appeared for the first

1   time in the expert report that Your Honor actually already

2   excluded his surrebuttal or reply, or whatever it was that it

3   was called exactly.

4          MS. CONE-RODDY:  Your Honor, Mr. --

5          THE COURT:  Wait.  One moment.

6          Well, I guess, counsel, tell me, did he address this

7   fixed effect in his report that he provided here that's marked

8   as an exhibit?

9          MS. CONE-RODDY:  He did not specifically address the

10  fixed effects per county conclusion Abadie, in those words, but

11  he did cite Mr. Abadie's conclusion.  And Dr. Rodden has cited

12  fixed effects throughout both his reports in various ways.

13         THE COURT:  Well, to the extent that he reviewed the

14  article, why don't you --

15         MS. CONE-RODDY:  Okay.

16         THE COURT:  -- lay a little bit more foundation.

17         MS. CONE-RODDY:  Okay.

18         THE COURT:  I'll overrule your objection at this time.

19         MS. FROST:  Thank you, Your Honor.

20         THE COURT:  Thank you.

21  BY MS. CONE-RODDY:

22  Q.  Mr. Trende, you have read the Abadie article?

23  A.  Yes.  It's cited at paragraph 54 of my expert report.

24         MS. CONE-RODDY:  Can you go to page 17 of that

25  article?

1         Go to -- or, sorry, two pages further on the screen.

2         If you go to -- no, the first -- first full para --

3    second full paragraph on the page.

4         Not this.

5    BY MS. CONE-RODDY:

6    Q.   Mr. Trende, have you read this second sentence here?

7    A.   Yes.

8    Q.   Can you explain what this means in English?

9    A.   I will try.  It says, so without fixed effects, that is,

10   without applying controls at a -- at a certain level, you

11   should cluster your standard errors if there is clustering in

12   the sampling -- which this isn't a sampling problem -- and

13   heterogeneity of treatment effects -- again, not a sampling

14   problem, what we're more interested is that last thing -- or if

15   there is clustering in the assignment.  So if you don't use

16   fixed effects for county here, and the treatment is applied at

17   the county level and there is clustering in the assignment, you

18   have to cluster your standard errors.

19   Q.   Did Dr. Rodden use fixed effects in the county level in his

20   original report?

21   A.   He does not.

22   Q.   Is this test that Abadie, et al., set out met here?

23   A.   I'm sorry?

24   Q.   Is the test that Abadie, et al., set out met here?

25   A.   Yes.

1   Q.   Mr. Trende, I wanted to go to -- I want to go to page 28 of

2   your report.

3           What are you discussing here at the section D?

4   A.   So section D has to do with some of the problems in

5   Dr. Rodden's matching and regression discontinuity designs.

6   Q.   What is a matching design?

7   A.   So there is a variety of matching designs.  What Dr. Rodden

8   is utilizing is propensity score matching where you will try to

9   figure out which variables can predict whether the county gets

10  the treatment or does not.  And you run a regression analysis

11  that way, and you try to match counties that are similarly

12  likely to get the treatment, where one gets it and one does

13  not.

14  Q.   In your opinion, is this an appropriate statistical method

15  here?

16  A.   No.

17  Q.   Why not?

18  A.   So you can see the citation on paragraph 78, the Kosuke

19  Imai, et al., article, or working paper.  There is also a

20  subsequent published article, again, by Abadie, that says when

21  you have time series cross sectional data, which is exactly

22  what we have here, we have a cross section of observations

23  observed multiple times, that it's very difficult to do

24  matching because so much of it is interdependent.

25          The other problem is that Dr. Rodden's matching

1    analysis is sensitive to covariate choice.  And if you use a

2    different set of variables, you don't get the significant

3    result.

4    Q.  Have you continued to review Dr. Rodden's analysis since

5    you submitted your first report -- your report?

6    A.  I have --

7        MS. FROST:  Objection, Your Honor.  If they're going

8    to go into stuff that is not in that report, I think we have a

9    very strong objection to that.

10       THE COURT:  Yes, I would agree.

11       MS. CONE-RODDY:  Your Honor, we just wanted to talk

12    about some of the things we discussed yesterday with

13    Dr. Rodden's testimony, but --

14       THE COURT:  Was Dr. Trende present for the testimony?

15       MS. CONE-RODDY:  He was not.

16       THE COURT:  All right.  So I don't know how it is that

17    you're intending to proceed.  I don't necessarily think that,

18    unless you have provided some written report or some other

19    document to plaintiffs that will opine on his opinions, that

20    I'm going to permit it.

21       MS. CONE-RODDY:  Okay.  That's fine.

22       THE COURT:  Thank you.

23    BY MS. CONE-RODDY:

24    Q.  Mr. Trende, can you go to page 26 of your report.

25       Can you identify this chart for me?

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 1   A.   Oh, yes.  I'm sorry.
 2           Yes.  This is a summary of regression analyses that
 3   were run in my report and Dr. Rodden's.
 4   Q.   I want you to look at the columns that say R first
 5   statewide and D first statewide.
 6   A.   Yeah.  The rows, yes.
 7   Q.   Sorry, rows.
 8           What is that first column after the labels?
 9   A.   So the first column is what I produced using the code that
10   Dr. Rodden provided.
11   Q.   What coefficient did Dr. Rodden find for D first statewide?
12   A.   .025.
13   Q.   Can you turn to page, I believe it's 24, of Dr. Rodden's
14   report.
15           And can you look at the last sentence of the first
16   paragraph?
17   A.   Is it the actual page 24 or the page 24 at the top?  I want
18   to make sure we're on the same page.
19           I think it's page 24 at the top.
20   Q.   I believe it's page 24 at the top.
21   A.   Okay.
22   Q.   There is a sentence that says, when I do this, the
23   estimated effect --
24   A.   When I do this, the estimated effect of being listed first
25   on the ballot for both Democrats and Republican --
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1          THE COURT:  I'm sorry.  Is there a question?  You

2     asked him to look at the page.

3     BY MS. CONE-RODDY:

4     Q.  What coefficient did Dr. Rodden find here?

5     A.  Dr. Rodden includes in his report an estimate of 2.5

6     percentage points, or a .025.

7     Q.  And what is this for?

8     A.  This is for his regression analysis when he does not use

9     the -- the districted variables.

10    Q.  Could you go to page 55 of his report.

11         Is Table A 11 -- does Table A 11 match what's in that

12    paragraph of Dr. Rodden's report?

13    A.  It does not.  The coefficient is .038, whereas, on page 24,

14    he reports an effect of .025.

15    Q.  In your opinion, does this table go with that regression?

16    A.  I have a hard time seeing how that could be the case.

17         THE COURT:  Again, counsel, I'm going try to keep up

18    with you.  You're extremely familiar with these tables.  You're

19    looking at Democratic first coefficient on Table A 11 on

20    page 55; is that correct?

21         MS. CONE-RODDY:  Yes, Your Honor.

22         THE COURT:  And you're comparing that to what?

23         MS. CONE-RODDY:  It's on paragraph -- in the paragraph

24    on page 24 of his report.

25         THE COURT:  The first full paragraph on page 24 of the

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1   Rodden report?

2          MS. CONE-RODDY:  Yes, Your Honor.

3          THE COURT:  Okay.  And then earlier you had the graph

4   in --

5          MS. CONE-RODDY:  Mr. Trende's report.

6          THE COURT:  -- Mr. Trende's report.  Now, again, I'm

7   trying to keep up with you, and I want to understand this, so

8   tell me then how you're bringing this together.

9          MS. CONE-RODDY:  Page 26.

10          THE COURT:  Yes.  And what --

11   BY MS. CONE-RODDY:

12   Q.  Mr. Trende, does the result you report from your table on

13   page 26 match what Dr. Rodden wrote in his written report?

14   A.  Yes.  Using the code that Dr. Rodden provided, I produced a

15   result that was identical to what Dr. Rodden put in the body of

16   his report, so I assume we were using the same code at least

17   for when Dr. Rodden wrote his report.

18   Q.  In light of your conclusion about the necessity to cluster

19   here, what is your overall opinion of the reliability of

20   Dr. Rodden's report for finding a ballot order effect in

21   Arizona general partisan elections?

22   A.  I think it's unreliable, because his models are assuming

23   that all these elections are independent, that there is no

24   clustering in the assignment of the treatment, and that's just

25   not true from what Dr. Rodden has written and testified.  I

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 1   think we both agree on at least the clustering issue.

 2             MS. CONE-RODDY:  I have no further questions, Your

 3   Honor.

 4             THE COURT:  All right.  Thank you.

 5             Who is examining Mr. Trende?

 6             MS. FROST:  Your Honor, I will be.  My name is

 7   Elisabeth Frost.

 8                         CROSS-EXAMINATION

 9   BY MS. FROST:

10   Q.  Good morning, Mr. Trende.  How are you?

11   A.  Good.  How are you?

12   Q.  I'm well.  Thank you.

13             My name is Elisabeth Frost and I am an attorney for

14   the plaintiffs in this matter.

15             We've never met, have we?

16   A.  I am not sure if our paths have crossed in these Perkins

17   Coie cases.  I don't think you've ever examined me though.

18   Q.  But you've met a lot of my colleagues at Perkins Coie over

19   the years?

20   A.  I certainly have.

21   Q.  I think we've established, you don't have a Ph.D., correct?

22   A.  That is correct.

23   Q.  You're currently a Ph.D. student at the Ohio State

24   University?

25   A.  There is a difference between being a Ph.D. student and a
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1   candidate, so for accuracy, I will say I'm a candidate.

2   Q.   Fair enough.

3        You received your master's in applied statistics just

4   this past year, correct?

5   A.   In December -- or I passed exams in December, I would have

6   -- no, no, no.  I passed exams in the summer.  I received it in

7   December of 2019.

8   Q.   Okay.  So that was going to be my next question because

9   your CV didn't say.  So you received your master's in applied

10  statistics just a few months ago?

11  A.   Yes.

12  Q.   You've never written for a publication that's been

13  peer-reviewed, have you?

14  A.   That's correct.

15  Q.   Not on any topic?

16  A.   That's correct.

17  Q.   Okay.  The expert report that you prepared for this case,

18  that's the document that has been marked as Defense Exhibit

19  101; is that correct?

20  A.   That's my understanding.

21  Q.   Okay.  And do you have that before you?

22  A.   Yes.

23  Q.   Can you please turn to page 2 of that document.  I'm

24  looking at paragraph 2.

25        Can you just tell me when you're there.

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1    A.   Yes.   I'm here.

2    Q.   Okay.   Great.   And I'm looking at this paragraph that says,

3    my areas of expertise include political history, voting laws

4    and the procedures in the United States, redistricting, and the

5    study of campaigns and elections.

6            Did I read that correctly?

7    A.   Yes.

8    Q.   Okay.   Let's unpack that a little.

9            In this case, you don't provide any expert opinion on

10   political history, do you?

11   A.   I think an understanding of how Arizona has evolved over

12   the last 40 years is important for analyzing this data.

13   Q.   Do you offer any expert opinion in this case on how Arizona

14   has evolved over the last 40 years?

15   A.   Like I said, I think it's important for understanding the

16   data, but my opinions are more statistical in nature.

17   Q.   So the answer is no?

18   A.   No.   My answer is I think it's important for understanding

19   the data.   You can't really just aggregate that from the

20   opinions being offered, but the specific opinions are critiques

21   of statistical analysis.

22   Q.   Okay.   Let's turn to the next area of expertise that you

23   list in your report.

24            Voting laws and procedures in the United States.   The

25   voting law or procedure issue in this case is Arizona's ballot

1　order statute; is that correct?

2　A.　Yes.

3　Q.　You don't hold yourself out as an expert on ballot order

4　laws, do you?

5　A.　I -- I -- I hold myself out as an expert on voting laws and

6　procedures.　I don't think I have ever stated that specifically

7　on ballot laws I'm an expert.

8　Q.　Okay.　But in some other cases where you've been qualified

9　as an expert on voting laws, you have actually -- that was the

10　content of your testimony, right?　You actually provided, like,

11　surveys of those types of election laws across the United

12　States, correct?

13　A.　You will have to refresh my memory on that.

14　Q.　You don't remember any case in which you provided testimony

15　about a survey of, say, voter identification laws in the United

16　States?

17　A.　Okay.　So back in the McCrory case, I think we're talking

18　about then, when I looked at the way that different law --

19　different early voting, same day registration, out of precinct

20　voting, voter ID laws, and preregistration laws had been

21　enacted in different county -- or different states in America.

22　Q.　Okay.　You don't do anything like that here with ballot

23　order laws, do you?

24　A.　No.

25　　　　　　THE COURT:　And you said it was the, what case,

1    McCrory?

2             THE WITNESS:  Yes.  I believe that's right.

3    BY MS. FROST:

4    Q.  And you understand that the plaintiff's claim in this case

5    is that a phenomenon known as position bias causes the first

6    listed candidate to gain an electoral advantage solely due to

7    being listed first, correct?

8    A.  That's my understanding.

9    Q.  Okay.  You don't claim to be an expert in the phenomenon

10   known as position bias, do you?

11   A.  Not at that level of specificity.

12   Q.  Okay.  None of the articles, the books, the chapters of

13   books that you've written, deal with position bias or ballot

14   order effects, correct?

15   A.  That's correct.

16   Q.  And none of the cases that you have testified in, you have

17   never been offered as an expert on position bias or ballot

18   order, correct?

19   A.  That's correct.

20   Q.  Now, you say you have expertise in redistricting, but this

21   isn't a redirecting case either, is it?

22   A.  That's correct.

23   Q.  And you don't claim to be an expert in psychology?

24   A.  No.

25   Q.  Your report doesn't say you're an expert in statistics or

1  statistical analysis either, does it?

2  A.  No.

3  Q.  Yet in the expert report that you prepared here, you

4  critique the statistical analyses used by plaintiff's experts

5  to measure ballot order effect, correct?

6  A.  That's correct.

7  Q.  And you actually go ahead and do a few statistical analyses

8  of your own that the plaintiff's experts didn't do, correct?

9  A.  Correct.

10  Q.  Now, statistical methods, they can be complicated, right?

11  A.  That's right.

12  Q.  That's why we -- we call experts to talk about them?

13  A.  I suspect, yes.

14  Q.  You were a lawyer, right?

15  A.  Yes.

16  Q.  And, in fact, it's your position that sometimes people who

17  are very experienced working with statistical models can make

18  mistakes in using them, correct?

19  A.  That's right.

20  Q.  Okay.  That's in -- the entire point of your expert report

21  here, isn't it?

22  A.  I don't know about that extreme of a statement, but I

23  certainly think that there is errors being made here.

24  Q.  Okay.  You agree that all statistical techniques have pros,

25  cons, and limitations?

1    A.   Yes.

2    Q.   And it's important to have experience using a technique in

3    order to be able to accurately recognize those pros, cons, and

4    limitations.  Would you agree with that?

5    A.   The more you've used them, the more adept you become at

6    recognizing them, yes.

7    Q.   Okay.  And you agree that even experts with a lot of

8    expertise in using a particular kind of model may disagree

9    about the appropriate techniques to utilize when examining

10   election data?

11   A.   Yes.

12   Q.   But it's your view, I understand from your report, that

13   some techniques are better than others?

14   A.   In certain circumstances, yes.

15   Q.   Okay.  So let's talk about your experience using the

16   specific statistical methodologies that you do use in your

17   report.

18         Your report discusses what's known as a regression

19   analysis, correct?

20   A.   Correct.

21   Q.   Dr. Rodden conducted a regression analysis in this case?

22   A.   Yes, multiple regression analyses.

23   Q.   And you critique various choices that Dr. Rodden made in

24   running his regression analyses?

25   A.   Correct.

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1    Q.   You currently work as a senior elections analyst at a Web

2    site called Real Clear Politics?

3    A.   It's a company that runs a Web site, yes.

4    Q.   You work for the Web site, correct?

5    A.   I work for the company running the Web site, yes.

6    Q.   The bread and butter -- but your claimed expertise here is

7    at least in part for the articles that you post on the Web

8    site, correct?

9    A.   That I author for the Web site, yes.

10   Q.   The bread and butter of what Real Clear Politics does is

11   aggregate data that's otherwise available and try to make sense

12   of it for its readers, correct?

13   A.   We aggregate data and we aggregate stories.  We also

14   produce original content, but I think what we're probably most

15   famous for is the averages of polls.

16   Q.   Correct.  So, for example, when you say that, Real Clear

17   Politics polls together a lot of polling data in one place,

18   correct?  That was one of the innovations of the Web site?

19   A.   Yes.

20   Q.   Any analyses that are published on Real Clear Politics,

21   they're not subject to peer review, correct?

22   A.   That's correct.

23   Q.   And the things you publish on Real Clear Politics, they're

24   directed toward the lay audience?

25   A.   Yes.

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1    Q.   You assume your audience does not have a consistently deep,

2    sophisticated understanding of statistics?

3    A.   So there I'll -- I'll demur a little bit.  I anticipate

4    that some of my readers are going to be political scientists

5    and experts, but the whole point is to try to write these

6    things up in a way that most people can understand, that a lay

7    audience can understand.

8    Q.   Okay.  In aggregating polling data, you don't use

9    regression analyses, do you?

10   A.   No.

11   Q.   And one of your jobs at Real Clear Politics is to raise the

12   competitiveness of political districts, correct?

13   A.   Correct.

14   Q.   And you've previously testified you don't do regression

15   models for the elections ratings you do at Real Clear Politics,

16   correct?

17   A.   Correct.

18   Q.   You've never published even one article in a peer-reviewed

19   publication where you ran a regression analysis?

20   A.   No peer-reviewed articles.

21   Q.   And your report says you've served as an expert in about

22   ten cases now?

23   A.   I think that's right.

24   Q.   Half of those are redirecting cases, right?

25   A.   I -- I -- I will take your word for it, yes.

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1    Q.   You don't have any reason to disagree with me?

2    A.   I don't have a reason to disagree with you.

3    Q.   Okay.  And my math isn't great, but five of ten, that's

4    half, right?

5    A.   Five of ten is half.

6    Q.   This isn't a redirecting case, is it?

7    A.   No.

8    Q.   And in most of the cases you have testified as an expert,

9    you have not engaged in any regression analyses; is that

10   correct?

11   A.   I don't know if that's right.

12   Q.   Okay.  Well, why don't we talk about them.

13   A.   Yeah.

14   Q.   Let's turn to page 6 of Exhibit 101, paragraph 22.

15         Okay.  So at the beginning of paragraph 22, you say

16   that you served as an expert in Dickson v. Rucho, correct?

17   A.   Correct.

18   Q.   Okay.  You did not testify in that case?

19   A.   That's right.

20   Q.   That was one of these redistricting cases?

21   A.   Yeah.  I think it was a Shaw case.

22   Q.   The Court didn't rely on your analysis in its opinion, did

23   it?

24   A.   I've never read the opinion.

25   Q.   Okay.  You can't say either way, sitting here today,
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1  whether the Court relied on your opinion in that case?

2  A.  Yeah.  I'm not trying to be difficult --

3  Q.  I understand.

4  A.  -- I just genuinely don't know.

5  Q.  I understand, but your --

6          THE COURT:  Please don't --

7          MS. FROST:  I apologize, Your Honor.

8          THE COURT:  Don't speak over one another, please.

9          MS. FROST:  I apologize, Your Honor.

10          THE COURT:  And slow down just a little bit, counsel.

11          MS. FROST:  I will.  I have the clock running in the

12  back of my mind, but I will slow down, I promise.

13          THE COURT:  Thank you.

14  BY MS. FROST:

15  Q.  You were an attorney, correct, Mr. Trende?

16  A.  I'm sorry?

17  Q.  You were an attorney?

18  A.  Yes.

19  Q.  And so you would agree that anyone -- it's a matter of

20  public record whether or not the Court relied on your analysis

21  in its opinion, correct?

22  A.  Yes.

23  Q.  So the next case that you issue here is Covington -- or

24  that you, sorry, write here on paragraph 22 of your report, you

25  say you also authored an expert report in Covington v. North

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1  Carolina, correct?

2  A.  Yes.

3  Q.  Now, again, you did not testify in that case?

4  A.  That's right.

5  Q.  And if I told you the Court did not rely on your analysis

6  in that opinion, would you have any reason to disagree with me?

7  A.  I don't believe the Court looked at my regression analyses

8  in that opinion.

9  Q.  So that Court did not rely on your regression analyses in

10 that opinion?

11 A.  I think that's correct.

12 Q.  Okay.  So let's move down to the next paragraph where you

13 say -- it's paragraph 23 -- I authored two expert reports in

14 NAACP v. McCrory.  And I believe we've already mentioned this

15 case.  You recall that you wrote two expert reports in NAACP v.

16 McCrory?

17 A.  Yeah.  I think one for the PI phase and then one for the

18 trial.

19 Q.  And you did testify in this case, correct?

20 A.  I did.

21 Q.  At issue in that case were several restrictive voting laws,

22 including a voter identification law, cutbacks on early voting,

23 the end of preregistration, things like that, correct?

24 A.  I think the voter identification law was in a separate

25 trial that I didn't testify at, but the other ones you mention,

1    yes.

2    Q.   And the plaintiffs alleged that these laws were intended to

3    and would negatively impact the African American electorate in

4    North Carolina, correct?

5    A.   Correct.

6    Q.   So the question in that case was specifically how or if

7    those laws would impact the African American electorate,

8    correct?

9    A.   I think there was -- yes.

10   Q.   Do the plaintiffs allege here that ballot order effect has

11   a greater impact on any particular racial group?

12   A.   No.

13   Q.   Now, you actually offered -- you offered two reports in

14   McCrory, but embedded in those reports was actually two

15   opinions, correct?

16   A.   That's my recollection, yes.

17   Q.   Okay.  And in the testimony in that case, you tended to

18   refer to them as opinion one and opinion two.

19         Does that sound familiar?

20   A.   It's a long time ago, but that sounds familiar.

21   Q.   First, you did a survey of similar laws in other states,

22   correct?

23   A.   Yeah, that's what we were discussing earlier.

24   Q.   And that opinion did not involve a regression analysis?

25   A.   It did not.

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1  Q.  It, essentially, just aggregated statutes around the United

2  States?

3  A.  Yes.

4  Q.  Your second opinion in that case was that the data did not

5  consistently support plaintiff's assessment that voting would

6  decrease African American participation, correct?

7  A.  That the voting laws would not, yes.

8  Q.  Sorry.  I misspoke.

9        But you agree with that, with that change, correct?

10  A.  Yes.

11  Q.  Now, that was the opinion that involved a regression

12  analysis, correct?

13  A.  Yes.

14  Q.  Yet after it became clear that you were not familiar with

15  basic statistical concepts when you testified, you actually

16  denied you were being tendered as an expert in statistical

17  methods in that case; isn't that true?

18  A.  I won't agree with your premise, but I did say, which was

19  true, that I was not being tendered as an expert in statistics.

20  Q.  Okay.  You don't agree that you -- in your testimony it

21  became clear you were not familiar with basic statistical

22  concepts?

23  A.  No.

24  Q.  Okay.

25        MS. FROST:  Your Honor, at this point, I would ask

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1    that we pull up impeachment Exhibit C.

2             THE COURT:  For what purpose?

3             MS. FROST:  I think it's going to become clear that

4    he, in fact, did testify he wasn't familiar with basic

5    statistical methods.

6             THE COURT:  Well, I think the question you asked was

7    somewhat different.  You said you don't agree that in your

8    testimony it became clear you were not familiar with the basics

9    in statistical concepts, and he said no.

10            So your impeachment goes to what?

11            MS. FROST:  It goes specifically to that.  I think in

12   his testimony it did -- it did become clear he wasn't familiar

13   with basic statistical concepts.

14            THE COURT:  And so what do you intend to elicit from

15   him?  Are you going to read back some of his testimony, is that

16   what you're intending to do?

17            MS. FROST:  Yes, Your Honor.

18            THE COURT:  All right.  You may go ahead.

19            What exhibit is this?

20            MS. FROST:  It's impeachment Exhibit C.

21   BY MS. FROST:

22   Q.  And we're looking at -- can you see it on the screen there?

23   A.  Yes.

24   Q.  And do you want to take a minute just to take a quick look

25   at this?

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1          I'm going to look at page 80 and 81.

2          And tell me when you've had a chance to take a look at

3     it.

4     A.   Yeah.  That's where I -- at the deposition I misstated what

5     a P -- the interpretation of a P value.

6     Q.   Well, in fact, what you said is that you were surprised to

7     learn about something called the proportional inverse fallacy,

8     correct?

9          Do you see that on page 80, at 15 through 17?

10    A.   Yes.

11    Q.   Okay.  So it's not that you misspoke it, it's that at the

12    time you were not aware of that fallacy in statistics, correct?

13    A.   I stated -- so this was referring to my deposition where

14    Mr. Call was -- Attorney General Call was crossing me.  And I

15    had stated the P value -- the interpretation of the P value

16    correctly.  After a couple tries he said, but you can interpret

17    it this way, and I said sure.  I subsequent -- I subsequently

18    learned this term called the inverse -- or the proportional

19    inverse fallacy that said you can't do that.

20    Q.   Okay.  And I think you testified earlier that after this

21    whole back and forth -- this actually is Mr. Ho, I think, who

22    is cross examining you at that point -- but after -- I think

23    you testified that after this back and forth, you agreed -- you

24    actually affirmatively stated you were not being offered as an

25    expert on statistical methods, correct?

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1  A.  He asked me if I was an expert in statistical methods, and

2  I said, no, that's not what I was offered as.  That's on line

3  17 of page 81.

4  Q.  Okay.  Great.  We can take that down.

5          And when the Court issued its ruling in that case, it

6  found that you were only qualified to offer an opinion on the

7  50 state survey; is that correct?

8  A.  I don't think it disqualified me on the other opinion, but

9  it did find that I was qualified to offer it on 50 state

10  survey.

11  Q.  The Court did not rely on your regression analysis in that

12  opinion?

13  A.  I don't recall that it did.

14  Q.  Okay.  Let's turn back to the page 7 of your Exhibit 101,

15  your expert report in this case.

16          I'll try and move quickly through these other cases

17  that you were an expert in.

18          You say on paragraph 24 you authored reports in NAACP

19  v. Husted and Ohio Democratic Party v. Husted.

20          Do you see that?

21  A.  Yes.

22  Q.  You did conduct a regression analysis in NAACP v. Husted,

23  didn't you?

24  A.  Correct.

25  Q.  And, now, you say in your report that this case settled,

230

1  right?  When you write, the former case settled, you're talking

2  about NAACP v. Husted?

3  A.   That's my understanding.

4  Q.   Okay.  But you don't say in this report that before the

5  case settled, the district court actually ruled on a

6  preliminary injunction motion, do you?

7  A.   I was not aware of that in Husted.

8  Q.   You were not aware --

9  A.   Wait.  I'm sorry.  NAACP Husted or --

10  Q.   NAACP v. Husted.

11  A.   I didn't know that the district court ruled on a PI in that

12  case.

13  Q.   Okay.  And so you were also unaware that when the Sixth

14  Circuit affirmed that PI, it affirmed the district court's

15  decision not to rely on your analysis, and it stated that you

16  are an elections analysis for a political Web site who has not

17  conducted a peer-review analysis similar to the one at issue

18  here.

19          This is the first time you're hearing this?

20  A.   Yes.

21  Q.   You're telling me that at no other point have you been

22  cross examined about this?

23          THE COURT:  When you say this, what are you referring

24  to?

25          MS. FROST:  About the Sixth -- both about the fact

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1  that the district court in the Southern District of Ohio did

2  not rely on his analysis, and that the Sixth Circuit found that

3  not relying on his analysis was justified given his lack of

4  expertise.

5         THE WITNESS:  I'm assuming you're asking me this

6  because I have been cross examined somewhere else on this, but

7  I don't remember it.

8  BY MS. FROST:

9  Q.  I'll put a pin in that because I'll have to dig through

10 this.  I'm a little surprised to hear this.

11        Okay.  Next you state you authored a report in the

12 Ohio Democratic Party v. Husted, correct?

13 A.  Yes.

14 Q.  And you note in your report the district court refused to

15 accept a part of your analysis, because, in your words, you

16 should have done more work to check that data behind the

17 application that you were using, correct?

18 A.  That's my understanding, yes.

19 Q.  Okay.  You did not conduct a regression analysis in that

20 case, did you?

21 A.  I don't believe so.

22 Q.  And when the Court issued its decision in that case, it

23 also did not rely on any analysis that you did; is that

24 correct?

25 A.  I don't believe it did.

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1   Q.   Okay.   Let's look at the next paragraph.   Here you have Lee

2   v. Virginia Board of Elections?

3   A.   Correct.

4   Q.   And you didn't do a report or testify in that case at all,

5   right, you were just a consulting expert?

6   A.   Yeah.   I'm just disclosing this to disclose all the

7   testimony, yes.

8   Q.   So no court relied on a regression analysis of yours in

9   that case?

10  A.   That's correct.

11  Q.   So Feldman v. Arizona is next on the next paragraph.   And

12  that's the same case that has sometimes been referred to as DNC

13  v. Hobbs; is that correct?

14  A.   I'll accept -- I don't know, but I'll accept -- I have no

15  reason to doubt you on that.

16  Q.   Okay.   That case was before Judge Rayes here in this

17  building; is that correct?

18  A.   That's correct.

19  Q.   And you did not do a regression analysis in that case

20  either?

21  A.   No, I did not.

22  Q.   In fact, you testified about legislative intent, correct?

23  A.   That's correct.

24  Q.   And you were countering the plaintiff's expert who was a

25  well-known historian; is that correct?
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1   A.   Correct.

2   Q.   Judge Rayes didn't rely on your analysis in that case

3   either, did he?

4   A.   I don't believe he did.

5   Q.   And you say in your report that part of your testimony in

6   that case was also struck?

7   A.   Yeah.  I was asked to do some calculations on the witness

8   stand, and it was struck as an undisclosed opinion.

9   Q.   Okay.  Let's move on to page 8 of your expert report.  You

10  say you authored an opinion -- a report in A. Philip Randolph

11  Institute v. Smith?

12  A.   Yes.

13  Q.   You didn't testify in that case, did you?

14  A.   I did not.

15  Q.   And the Court's opinion makes no mention of your analysis?

16  A.   It does not.

17  Q.   That brings us to Whitford v. Nichol.  That was another

18  redistricting case, correct?

19  A.   Yes.

20  Q.   And the Court there found the methodology you used

21  unreliable, correct?

22  A.   I don't know about that.

23  Q.   Okay.  But you would agree it's public record and anyone

24  could look it up?

25  A.   Whatever the -- whatever the verbiage of the Court is, is

1　in the opinion, yes.

2　Q.　And the Court didn't rely on any regression analysis that

3　you did in that case?

4　A.　No.　I did regression analyses in the second part of the

5　case, but the Rucho decision put an end to that.

6　Q.　Okay.　So the last case you list is one that we discussed,

7　that actually Your Honor asked you about in your direct, but I

8　want to take a moment to talk about, because it's the most

9　recent case that you were an expert in.

10　　　　　And that is, you served as an expert in Common Cause

11　v. Rucho, correct?

12　A.　Correct.

13　Q.　And this was the partisan redistricting case that the Court

14　asked you about earlier?

15　A.　Yes.

16　Q.　And in this case you testified about the efficiency gap,

17　correct?

18　A.　Correct.

19　Q.　The efficiency gap is not at issue in this case, is it?

20　A.　That's right.

21　Q.　Now, in the course of your testimony in that case, do you

22　recall that one of the judges actually noted on the record

23　while you were testifying that you were not a statistician?

24　A.　It was before I received my degree, but yes.

25　Q.　You didn't disagree with that, did you?

1    A.   I certainly did not argue with the judge.

2    Q.   Well, in fact, you testified you actually stayed as far

3    away as you could from the statistical analyses conducted by

4    the plaintiff's expert in that case, correct?

5    A.   I stayed as far away as I could from Dr. Jackman's Bayesian

6    regressions because I hadn't done the coursework on it, because

7    he wrote a textbook on Bayesian regressions, so I certainly

8    wasn't going to engage with him.

9    Q.   Now you offer opinions on Bayesian regressions as an expert

10   in this case?

11   A.   I'm much more familiar with them today.

12   Q.   You testified in that case in October of 2017?

13   A.   Yes.

14   Q.   So just a little over two years ago?

15   A.   Yes.

16   Q.   And when the Court's opinion was issued in that case, it

17   didn't rely on your analysis either, did it?

18   A.   I don't believe it did.

19   Q.   So in none of the cases that you've previously been an

20   expert in has the Court relied upon a regression analysis that

21   you've done?

22   A.   That sounds right.

23   Q.   Okay.  And if this Court were to rely on your statistical

24   analyses in this case, this Court would be the very first one

25   to do so?

1  A.  Actually, I don't know that that's right, because in NAACP

2  versus McCrory, the Court relied on my opinion one.

3  Q.  Which was a 50 state survey?

4  A.  Yes, but I want to answer your questions correctly and

5  accurately.

6  Q.  Okay.  Let's talk about -- move on from regression

7  analyses.  And you go ahead in your report and utilize some

8  other types of statistical analyses that Dr. Rodden did not

9  utilize, correct?

10  A.  Yes.

11  Q.  And one of these techniques we were actually just talking

12  about, it's known as Bayesian hierarchical model?

13       MS. CONE-RODDY:  I'd like to object.  This was outside

14  the scope of his direct testimony.

15       MS. FROST:  Your Honor, this is about his

16  qualifications to opine in this case.  He offers opinions based

17  on Bayesian hierarchical model, and he just testified to that

18  and it's in his report.

19       THE COURT:  So if you're going to ask him about his

20  familiarity of the model, that's permitted.

21       MS. FROST:  Correct.  That's what I'm going to ask,

22  Your Honor.

23       THE COURT:  All right.  Overruled.  Thank you.

24  BY MS. FROST:

25  Q.  So you've actually previously testified --

1          THE COURT:  And, again, please don't talk over me or

2     anyone else.

3          MS. FROST:  I'm sorry.

4          THE COURT:  Thank you.

5          MS. FROST:  I'm sorry, Your Honor.  I've gotten back

6     in the outline and I apologize.

7          THE COURT:  Thank you.

8          Go forward, please.

9     BY MS. FROST:

10    Q.  So you have previously testified your -- that you were not

11    qualified to offer a critique in Bayesian hierarchical

12    modeling, correct?

13    A.  I stayed away from arguing with Dr. Jackman who wrote a

14    textbook about it.

15    Q.  You don't recall testifying in Common Cause v. Rucho:  I'll

16    admit upfront, I can't offer critique of Bayesian hierarchical

17    modeling?

18    A.  I think that was in the context of saying I wasn't going to

19    argue with Dr. Jackman who was, like I said, wrote a textbook

20    about it.  I know my limitations.

21         THE COURT:  All right.  Let's move on from this area,

22    please.

23    BY MS. FROST:

24    Q.  Another statistical technique that you use that Dr. Rodden

25    did not use is something you refer to as GEE, which stands for

1  generalizingly estimating equations; is that correct?

2  A.  Generalized estimated equation.

3  Q.  Generalized estimating equations.  It didn't sound right

4  when I said it.  I appreciate the correction.

5          Can you identify a single case for me in which you've

6  previously been qualified as an expert to offer testimony in

7  this technique?

8  A.  No.

9  Q.  I want to talk to you about the last statistical method you

10  used in your expert report in this case, and this is one that

11  you discussed with the counsel for the Secretary a little bit,

12  spatial temporal modeling.

13  A.  Yes.

14  Q.  That's a technique that you used in your report, correct?

15  A.  Correct.

16  Q.  Now, you testified a few years ago in the case of Whitford

17  v. Nichol that you had never heard of a summary statistic

18  called Moran's I.

19          Do you recall that?

20  A.  That was true a few years ago, yes.

21  Q.  Okay.  Do you now recognize this term as a basic concept in

22  spatial statistics?

23  A.  In pure spatial statistic analysis, yes.

24  Q.  Okay.  Since then you have never been qualified as an

25  expert in spatial statistics of any sort, correct?

1    A.   That's correct.

2    Q.   Let's talk a little bit more about the spatial temporal

3    model.

4           One of the concerns that you discussed with counsel

5    for the Secretary is that election results of neighboring

6    counties are correlated, correct?

7    A.   Correct.

8    Q.   Would you agree that's often true of election results

9    between neighboring states as well?

10   A.   Correct.

11   Q.   Election results in North and South Dakota are correlated,

12   right?

13   A.   Right.

14   Q.   And you see this all over the country, correct?

15   A.   That's correct.

16   Q.   And I assume you don't think Arizona is the only state

17   where election results might be correlated in neighboring

18   counties?

19   A.   That's correct.

20   Q.   We can typically expect to find evidence of spatial

21   dependence in a county level or precinct level or state level

22   dataset for U.S. elections, correct?

23   A.   That's right.

24   Q.   And you actually attached to your report a paper by Robert

25   Erikson and Lorraine Minnite, correct?

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 1   A.   Correct.

 2   Q.   And you testified about that report on direct?

 3   A.   Yes.

 4   Q.   And it's -- I think you testified you -- you attached it

 5   because you thought it was a good example, correct?

 6   A.   Of the debate over clustering standard errors, yes.

 7   Q.   Okay.  But, actually, in this case, in this particular

 8   paper, they did not correlate election results, isn't that --

 9   or, I'm sorry, you provided this paper that -- you're correct.

10   You provided this paper as an attachment to your report because

11   you thought it was a good example of the correct way to

12   calculate standard --

13            THE COURT:  You're tasking our court reporter.

14            MS. FROST:  I apologize.

15            THE COURT:  Perhaps just take a breath in between each

16   word.

17            MS. FROST:  Okay.

18            THE COURT:  And I am having a difficult time trying to

19   keep up.

20            MS. FROST:  Okay.  I appreciate the feedback, Your

21   Honor.  I will.  I will do that.

22            THE COURT:  And I have to tell you, I have never had a

23   court reporter have that difficulty and annunciate it in an

24   open hearing.  It really has to stop.

25            MS. FROST:  Okay.  I -- I appreciate it, Your Honor.
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1   I will do better.

2            THE COURT:  All right.

3   BY MS. FROST:

4   Q.  You provided the Erikson and Minnite paper as an attachment

5   to your report because you thought it was a good example of the

6   correct way to calculate standard errors in the presence of

7   dependence in the data; is that correct?

8   A.   In the presence of clustering in the assignment --

9   Q.   Okay.

10  A.   -- and treatment, yes.

11  Q.   The Erikson Minnite paper did not estimate a spatial

12  temporal model, did it?

13  A.   No, but I don't -- I don't know how much that technology

14  had even been developed by 2009.

15  Q.   Because the technology is very new, correct?

16  A.   It's relatively new, yes.

17  Q.   And can you name a single peer-reviewed article that has

18  used spatial -- a spatial temporal model in the way that you

19  suggest Dr. Rodden should have done in this case?

20  A.   I can't think of anything that would have done it the way I

21  think he could have done it to account for the dependencies.

22            MS. FROST:  I'm just consolidating, Your Honor, to try

23  and wrap it up.

24  BY MS. FROST:

25  Q.   Okay.  So let's talk a little bit about your critique of

1  Dr. Rodden's regression analysis.  Okay?

2  A.  Yes.

3  Q.  And you used each of the techniques that we've just

4  discussed to critique Dr. Rodden, correct?

5  A.  Correct.

6  Q.  And one of your primary critiques of Dr. Rodden's

7  regression analysis is that some decisions -- is some decisions

8  that he made about specific variables about voters race; is

9  that correct?

10         MS. CONE-RODDY:  Your Honor, I'm going to object

11  again.  This was not a part of the scope of his direct

12  testimony.

13         MS. FROST:  I'm happy to move on.

14         THE COURT:  Well, let me first sustain the objection,

15  and now you can move on.

16         MS. FROST:  Thank you, Your Honor.

17  BY MS. FROST:

18  Q.  You also fault Dr. Rodden for not clustering his standard

19  errors in regression, correct?  That is something you talked

20  about on direct?

21  A.  Yes.

22  Q.  And you testified that sometimes if you don't cluster, you

23  see effects that aren't there; is that correct?

24  A.  That's the -- the boiled down way of putting it, yes.

25  Q.  Okay.  But the article that you relied upon in your

1   testimony, doesn't it also warn that clustering can actually

2   conceal effects that are there?

3   A.   Which article are we talking about?

4   Q.   Let's turn to Defendant's Exhibit 104, page 2, please.

5   A.   Okay.

6   Q.   And can we turn to the second page, please.

7           Let's go to the next page.

8           And I'm looking at the top paragraph, the last

9   sentence.  Do you see where it says, in general, clustering at

10  too aggregate a level is not innocuous and can lead to standard

11  errors that are unnecessarily conservative even in large

12  samples?

13  A.   Yes, that's correct.

14  Q.   You agree with that statement?

15  A.   It's absolutely correct.

16  Q.   In layman's terms, this means you need to be thoughtful

17  about where you cluster, correct?

18  A.   That's right.

19  Q.   And that sometimes clustering can actually conceal an

20  effect when there really is one?

21  A.   Right.  So, in this case, there is clustering by year,

22  certainly, but the treatment level -- the treatment isn't

23  applied at that year, so we wouldn't want to cluster our

24  standard errors by year or by office sought.  You only want to

25  cluster your standard errors at the level at which the

1  treatment is applied.

2  Q.  Isn't it also true that the risk that they warn about here

3  is heightened when you have a lot of variables in your model?

4  A.  I don't know.

5  Q.  Okay.  Is it your view that having 15 clusters and 36

6  variables is a reasonable use of clustering?

7  A.  Yes.

8  Q.  I'm almost done, I'm sure you'll be happy to hear.

9       I just want to talk very briefly about your critique

10  of the report -- oh, actually, you didn't testify on direct

11  about your critique of the report of Dr. Krosnick, correct?

12  A.  I don't believe so.

13       MS. FROST:  Okay.  All right.  Then I am done.

14       Thank you, Your Honor.  I apologize again.

15       I appreciate your time, Mr. Trende.

16       THE WITNESS:  Thank you.

17       MS. CONE-RODDY:  Very brief redirect, Your Honor.

18       THE COURT:  While you're coming up, let me just follow

19  up on that last question.

20       Why are 13 clusters and 36 models reasonable, in your

21  opinion?

22       THE WITNESS:  Stata runs perfectly properly when you

23  do that.  There are no errors produced.  I did it just ten

24  minutes ago -- or an hour ago to check.  And I'm not sure why

25  it would be, because all you're doing is allowing the -- and

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 1   I'm going to have to geek out for a second, I'm sorry.

 2            THE COURT:  And you're going to lose me if you do

 3   that, so try --

 4            THE WITNESS:  I know.  I know.

 5            THE COURT:  -- try very hard to keep it in general

 6   terms.

 7            THE WITNESS:  Given the math involved, I can't think

 8   of why it would be an issue.

 9            THE COURT:  Thank you.  All right.

10            You may continue.  Thank you.

11                       REDIRECT EXAMINATION

12   BY MS. CONE-RODDY:

13   Q.  Mr. Trende, I just wanted to ask you about the NAACP v.

14   McCrory case you were asked about on cross.

15   A.  Yes.

16   Q.  When did you testify in that case?

17   A.  I believe it was 2014 or 2015.

18   Q.  Do you remember when your deposition was in that case?

19   A.  I believe it was in those same years, 2014 or 2015.

20   Q.  When did you start your applied statistics degree?

21   A.  2016.

22   Q.  Did your applied statistics degree include classes on

23   regression analysis?

24   A.  An entire class solely dedicated to linear regression

25   analysis, yes.
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1    Q.  We talked a little bit about your comprehensive exams for

2    your applied statistics degree.  Did that involve regression

3    analysis?

4    A.  Regression analyses, interpretation of P values in

5    regression analyses, how to read them properly.  That was

6    emphasized repeatedly in my coursework.

7    Q.  I just want to clarify, did you pass your comprehensive

8    examinations?

9    A.  I did.

10          MR. RODDY:  I don't have any other questions, Your

11   Honor.

12          THE COURT:  All right.  Thank you.

13          And, sir, thank you for your time.  And you may step

14   down.

15          THE WITNESS:  Thank you, Your Honor.

16          THE COURT:  All right.

17          MS. KHANNA:  Your Honor, can we ask for brief rebuttal

18   testimony?

19          THE COURT:  Yes.

20          All right.  Sir, thank you.

21          MS. FRIDAY:  Your Honor, we would object to the

22   request for rebuttal.  We think rebuttal is only appropriate to

23   respond to unforeseen evidence.  And here in our case in chief

24   we did not put up anything that wasn't on Mr. Trende's initial

25   expert report.

1          THE COURT:  And I would agree with that.

2          What would the nature of the rebuttal be?

3          MS. KHANNA:  It would specifically rebut the testimony

4   that he talked about today on the stand.

5          Your Honor, it was our understanding that the parties

6   would be talking about the actual reports.  It seems to me that

7   the defense has chosen to limit Mr. Trende's testimony, I

8   assume that is admissible testimony, to only portions of the

9   direct examination, and not to actually his report in general.

10  I believe that we are entitled to question the topics he

11  actually discussed in his examination today, just as he was

12  offered to testify to the topics of the examination previously.

13         THE COURT:  Well, I don't think he testified as to any

14  of the witnesses that -- in terms of their testimony.  Is that

15  what I understand you to be saying?

16         MS. KHANNA:  No.

17         THE COURT:  Because he was not here.

18         MS. KHANNA:  No, you're right, Your Honor.  I just

19  want to clarify.  He testified to a specific table in his

20  report and certain coefficients there, and I just don't believe

21  that he -- we have not had an opportunity to test him on that.

22         THE COURT:  And your able counsel could have cross

23  examined him about that table, so unless there is some other

24  area that you think that there is rebuttal necessary, it wasn't

25  already covered.

1          And I guess the -- I don't understand the nature of

2     the rebuttal if you're going to go into other areas that he

3     didn't go into.

4          MS. KHANNA:  Your Honor, and I guess all I can say is

5     that we had planned to kind of set up the narrative of the

6     testimony in the same way that we set up the narrative of the

7     reports, is that the initial reports would explain their direct

8     testimony, there would be a response and that there would be a

9     rebuttal as reflected in their reports.  And I think that our

10    experts should have an opportunity to -- to reflect the fact

11    that they have responded to some of the things that -- in

12    writing to some of the things that Mr. Trende has testified

13    about today, but if we're going to stand on the reports, we are

14    happy to do that as well, Your Honor.

15         THE COURT:  And I will tell you that you had your

16    witnesses on the stand and you could have gone into those areas

17    as well, and so I'm going to -- I'm going to sustain the

18    objection.  All right.

19         So how do you wish to proceed now?

20         MS. FRIDAY:  Well, Your Honor, we have been

21    discussing, perhaps, the logistics involved in the hearing that

22    is scheduled for next Tuesday.  I don't want to speak for the

23    plaintiffs, so I will let Ms. --

24         THE COURT:  And can you just position a microphone

25    closer to you.  Thank you.

1          MS. FRIDAY:  My apologies, Your Honor.

2          I was saying that we had been discussing amongst the

3   parties the logistics for the hearing scheduled on the oral

4   argument next Tuesday, and I will defer to plaintiffs on that.

5          MS. KHANNA:  And so, Your Honor, as we discussed over

6   e-mail this week about scheduling the hearing next week, we're

7   just not sure about our capability to travel.  I'll just

8   represent, I'm coming from Seattle, and while I can do

9   everything in my power, and I will try to travel back to the

10  courthouse, there is some things that I'm not sure about with

11  respect to my own schedule and whatever is happening in the

12  State of Washington right now.  So I would just request the

13  Court's permission to explore the opportunity to do -- to

14  proceed electronically, over video conference or over telephone

15  if that's possible.

16         THE COURT:  That's not going to be feasible, so

17  whoever wants to argue can argue.  You have multiple lawyers in

18  the room here, so you can flip a coin and figure out who is

19  going to be present, but presence is necessary.  It's critical

20  to your case, obviously, and so we can't be at all places at

21  once, so you just have to prioritize.

22         MS. KHANNA:  Thank you, Your Honor.

23         THE COURT:  All right.  So we will proceed at nine

24  a.m. on Tuesday.

25         And I think I gave you up through the noon hour.  You

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1   can equally divide that, but with the -- with respect to

2   plaintiff's case, I'll give them a little leeway for rebuttal,

3   and so we will then reconvene on Tuesday.

4           All right.  There being nothing further, thank you.

5           Oh, one last matter.  There is going to be some

6   difficulty, because as you have identified, and as I've

7   identified, I think it's not just plaintiff's exhibits, but

8   defendant's exhibits -- I'm going to have my courtroom deputy

9   examine them closer -- but I'm off a page.  And by necessarily

10  making a record, I have to rely on what you have done, so

11  someone is going to take the responsibility of reduplicating

12  what the admitted exhibits are and the number page references

13  so that when I am writing this up, I am on the same page as you

14  are.

15          And then, again, preparing that demonstrative exhibit

16  in an appropriate manner that is color coded in the way that it

17  was produced yesterday, so if you would work on that as well.

18          All right.

19          (Proceedings concluded at 11:54 a.m.)

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1            C E R T I F I C A T E

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3        I, CHRISTINE M. COALY, do hereby certify that I am

4   duly appointed and qualified to act as Official Court Reporter

5   for the United States District Court for the District of

6   Arizona.

7        I FURTHER CERTIFY that the foregoing pages constitute

8   a full, true, and accurate transcript of all of that portion of

9   the proceedings contained herein, had in the above-entitled

10  cause on the date specified therein, and that said transcript

11  was prepared under my direction and control.

12        DATED at Phoenix, Arizona, this 6th day of March,

13  2020.

14

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                 /s/ Christine M. Coaly_____
17               Christine M. Coaly, RMR, CRR

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