IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF GEORGIA
ATLANTA DIVISION

GEORGIA STATE CONFERENCE OF THE NAACP, ET AL.,	
PLAINTIFFS,	Case No. 1:21-CV-5338-ELB-SCJ-SDG
v.	
STATE OF GEORGIA, ET AL.,	
DEFENDANTS.	
COMMON CAUSE, ET AL.,	
PLAINTIFFS,	Case No. 1:22-CV-00090-ELB-SCJ-SDG
v.	
BRAD RAFFENSPERGER,	
DEFENDANT.	

VIDEO RECORDED DEPOSITION OF BENJAMIN SCHNEER
(TAKEN by DEFENDANTS)
ATTENDING VIA ZOOM IN MIDDLESEX COUNTY, MASSACHUSETTS
MARCH 14, 2023

VIDEOGRAPHER: Krishan Patel

REPORTED BY: Meredith R. Schramek
Registered Professional Reporter
Notary Public
(Via Zoom in Mecklenburg County,
North Carolina)

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Deposition of Benjamin Schneer, taken by the defendants via Zoom on the 14th day of March, 2023, at 9:05 a.m., before Meredith R. Schramek, RPR, Notary Public.

C O N T E N T S

The Witness: BENJAMIN SCHNEER
Examination By Mr. Jacoutot 5
Examination By Mr. Rollins-Boyd 87

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P R O C E E D I N G S

THE VIDEOGRAPHER: Today's date is March 14, 2023, and the time is 9:05 a.m. This will be the remote videotaped deposition of Benjamin Schneer, PhD. Will counsel please introduce themselves and any objection to the witness being sworn in remotely.

MS. BERRY: No objection.

MR. JACOUTOT: No objection.

Crinesha, do you want to introduce yourself for the record first since y'all are the plaintiffs?

MS. BERRY: Sure. Crinesha Berry on behalf of Georgia NAACP plaintiffs with Crowell & Moring.

MR. JACOUTOT: And Bryan Jacoutot on behalf of the state defendants with Taylor English Duma.

MR. ROLLINS-BOYD: Marlin David Rollins-Boyd, the Lawyers' Committee for Civil Rights on behalf of the Georgia NAACP plaintiff group.

MS. HSU: Lily Hsu with Crowell & Moring on behalf of plaintiffs.

MR. JAMIESON: Nathan Jamieson from Dechert on behalf of Common Cause plaintiffs.

MS. SMITH: Casey Smith from the ACLU for the Alpha Phi Alpha plaintiffs in the coordinated case.

Whereupon,
BENJAMIN SCHNEER,
having been duly sworn,
was examined and testified as follows:

MR. JACOUTOT: So this will be the deposition of Benjamin Schneer taken by the state defendants for purposes of discovery and all purposes allowed under the Federal Rules of Civil Procedure and the Federal Rule of Evidence.

Ms. Berry, I think I've agreed in the past, but I just want to check and make sure it's okay with you to continue doing where the objections except those going to form of the question and responsiveness of the answer or attorney-client privilege are reserved until trial or until first use of the deposition. Does that work for you?

MS. BERRY: Yes.

MR. JACOUTOT: And do you want to have the witness read and sign after the deposition?

MS. BERRY: Yes.

MR. JACOUTOT: Okay. Great.

EXAMINATION

BY MR. JACOUTOT:

Q So, Dr. Schneer, my name, as I said, is Bryan Jacoutot, and I represent the state defendants. The

purpose of this deposition is not to confuse you in any way. So if I ask a question that you don't understand, can we agree that you will let me know, and I'll try and rephrase it for you?

A Sure.

Q And since we're doing this over Zoom, it's really important that, for the court reporter, you speak clearly and loud enough so that she can hear. And be sure to audibly say "yes" or "no" rather than nodding your head or saying "uh-huh" or "uh-uh" as it doesn't necessarily always cleanly come out on the record. So if you could do that, I would appreciate it.

If you need a break at any time, let me know. We can take as many as we need. The only thing I would ask of you is if I have a question pending to you, if you would answer that question before we take the break. Is that agreeable?

A Yes.

Q Okay. Great. And can you again state your full name for the record?

A Benjamin Hayman Schneer.

Q And the address you're at, is that your office, or is that the office of your attorneys?

A Do you mean currently?

Q Yes.
A We're using a conference room at another law firm.
Q Okay. And is there anybody in the room with you, or are you just by yourself?
A I'm with Crinesha Berry and Lily Hsu.
Q Okay. Are you on any medications that might keep you from fully and truthfully participating today?
A No.
Q And do you have any medical conditions that might keep you from fully and truthfully participating today?
A No.
Q Have you ever been arrested?
A No.
Q So never convicted of a crime?
A No.
Q Have you or a family member ever filed any election-related lawsuits?
A No.
Q Prior to your deposition today, did you discuss this case with anybody?
A Only the attorneys that I've been working with.
Q Okay. With respect to this specific

deposition, apart from your attorneys, did you discuss this deposition with anybody?

A No.

Q Did you review anything to prepare for your deposition today?

A Yes.

Q What did you review?

A I reviewed my expert report. I reviewed the rebuttal report. And I reviewed parts of Moon Duchin, another expert, parts of her report.

Q Okay. And the rebuttal report you're referring to there, is that the report filed by Dr. John Alford?

A Yes.

Q Okay. I know you have some of this listed in your CV that you attached to your report, but can you just briefly go through an overview of your educational history beginning with high school and up through your PhD in terms of dates attended and what school you attended?

A Sure. Is it possible to call up my CV just so I don't mix anything up?

(Exhibit 1 Marked for Identification.)

BY MR. JACOUTOT:

Q Yeah. Let me -- actually, before we get into

that, I'll just put a few exhibits into the Exhibit Share so we can have them to look at. So the first one is kind of unrelated to this line of questioning. But it is your notice of deposition. So I'm going to pull that up and send it to you real quick. Give me one second.

A Okay. I see something marked Exhibit 0001.

Q Okay. And this is the defendants' notice to take your deposition. Do you see that in the title there?

A It's cut off. It just says Exhibit 0001.

Q Down towards the bottom in bold and underlined, do you see the document title there?

A Yeah. There we go. Okay. Yes.

Q Okay. And did you receive this?

A I'm just receiving it now.

Q Okay. So you hadn't seen this before?

A Yeah. This is the first time I've seen this document.

Q Okay. So did your -- I guess your attorneys just kind of informed you that you had your deposition today?

A Yes.

(Exhibit 2 Marked for Identification.)

BY MR. JACOUTOT:

Q Okay. All right. Now I'm going to introduce your report. This might take a second because it's kind of a bigger file. So it might be a minute before it shows up. But I'm going to go ahead and mark it as Exhibit 2.

And if you could, when it comes through, if you could kind of scroll through it and make sure that it is the report that you filed in this action. You don't have to do an exhaustive, you know, look over everything but just make sure that it looks like what you filed.

A Yeah. It looks like what I filed.

Q Great. So if you want to scroll down to your CV and kind of refresh your recollection, then we can go through your education briefly.

A Okay.

Q I'm sorry. Let's just -- I'll just go ahead and ask you kind of in order starting with high school.

Where did you attend high school?

A I attended Decatur High School.

Q Is that in Georgia?

A That is.

Q Okay. And what years did you attend there?

A I guess would be 1997 to 2001.

Q Okay. And your undergrad?
A I attended Columbia University from 2001 to 2005.
Q And did you double major in political science and history? Is that what I saw?
A No. I believe it was economics and history.
Q Economics and history. Sorry about that. Political science and history are often those majors that go together in undergrad.
So then after that, did you go out into the workforce, or did you go straight into grad school?
A I worked for a couple years.
Q And where did you work?
A I worked as a research assistant at Stanford Law School for about a year. And I worked at a consulting firm in Emeryville, California, for about a year or maybe -- I don't totally recall. It was a year or two. And then I did a master's degree in economics at Stanford. And I finished that in 2010. And then from -- I think from 2010 until 2016, I was in the government department at Harvard where I earned first a master's in political science and then a PhD in political science in 2016.
Q Okay. Were you working at all while you were in the government department in school?

A I wasn't working -- I mean, I'm not totally sure how to answer that. I was working for various professors and did some consulting work and that sort of thing.

Q I'm sorry. Go ahead.

A No. That's it.

Q Okay. And in this work that you were doing with the various professors, were you being paid to do it, or was it part of your curriculum?

A Both. There is some research projects where I was -- where I wasn't paid, and then there was some work where I was paid.

Q Okay. For your MA in economics at Stanford, was there any sort of concentration, any sort of subset of economics that you focused on?

A No. It was a general degree.

Q Okay. Do you recall where you graduated in the class for the economics master's?

A I couldn't tell you.

Q Okay. So you went out into the workforce for a little while between your undergrad and getting your master's at Stanford. Have you told me all the places that you worked at during those years?

A Yes. I worked as a research assistant, and I worked at a consulting firm.

Q Okay. And what was your sort of line of work at the consulting firm?

A So this is a firm that I think is now defunct. But it was called Law and Economics Consulting Group, LECG. And it was -- we were doing statistical analyses applied to legal questions.

Q Okay. Were -- the statistical analyses applied to legal questions, did they have anything to do with voting?

A No.

Q What sort of issues did you get into?

A This is a while ago. So I can't say I remember every single thing. But a typical case would be like a patent infringement type case.

Q Interesting. And when you went on to take your -- the master's at Stanford, were you working as a consultant during that time, or was it a full-time student?

A I was not working at a consultant -- as a consultant during that time. Yeah.

Q Okay. And were you working as a research assistant during that time?

A Yeah. I worked as a research assistant some of that time.

Q Okay. And who did you assist?

A Let's see. So I think during that time, if I recall, I would have worked with a professor named Gavin Wright. And I also -- if you recall, I previously had worked as a research assistant before starting the master's for a professor called Alison Morantz. And so I continued doing a bit of work with her as well.

Q Okay. So we'll turn to your involvement in this case. Actually, before we get to that, just one more question on your education. You received your PhD in political science from Harvard University in 2016; is that right?

A Yes.

Q Was there any sort of concentration during that program? Did you concentrate at all in any area of political science?

A Yes. So for that, my concentration was -- so what I did my sort of like fields in would have been American politics and quantitative methods.

Q Did you focus on any particular era of American politics?

A I mean, I had pretty broad-based views. But my general area of interest is, was, and continues to be elections, political representation, things of that nature.

Q Okay. And the quantitative methods portion of that focus, that was dealing with elections as well?

A Yes. Statistical methods applied to the study of American politics. And for my particular focus, mostly it had to do with, yeah, my substantive areas of interest which were elections, political representation, redistricting, and so on.

Q Okay. So turning to this case, when were you first contacted to file -- to or file an expert report in this matter?

A I believe I was first contacted sometime in 2021.

Q '21? Did you file a report in the preliminary injunction action in this matter?

A I did not.

Q Okay. Do you know if you were contacted after the preliminary injunction hearing?

A I'm not sure. I don't know when that was.

Q Actually, it was February 2022 if I recall correctly.

A Presumably.

Q It wouldn't have been then? Okay. Do you recall who contacted you?

A Attorneys from the Lawyers' Committee.

Q Okay. And what were you told that you were

being hired for?
A If I recall, I was just told that -- I was told that they were interested in a -- in analyzing voting behavior in Georgia. So the question of if there was racially polarized voting particularly.
Q Do you have any connection with lawyers that contacted you prior to this action?
A No.
Q Do you know how they located you?
A I don't.
Q Okay. Were you told what the plaintiffs were hoping to prove or their position on the issues in this case when you were contacted?
A No.
Q And are you being retained by the plaintiffs in these cases or by the law firms?
A I think that's a good question. I guess officially I would -- I'm retained by Crowell.
Q So you'd say -- do you send your bills to Crowell?
A Yeah.
Q Okay. And what sort of -- well, let me rephrase that.
Do you charge an hourly rate for your services?

A Yes.
Q And what's that hourly rate?
A $350 an hour.
Q Okay. And have you been paid thus far in the case?
A No.
Q Do you know about how much time you've billed so far?
A I couldn't tell you exactly. But I would say it's over 100 hours but less than 200.
Q Okay.
A I'm not exactly sure.
Q Okay. Do you have any expectation about how much more you expect to bill in this case?
A I don't have any expectation, no.
Q Have you been hired to testify -- excuse me. Let me rephrase that. One moment. We'll get back to that in a second.
Are you currently offering expert reports on racially polarized voting in any other active litigation?
A No.
Q Okay. And have you worked with -- the plaintiffs in this case, have you worked with them in any other cases before?

A No.
Q And have you worked with the attorneys in this action in any other cases?
A Not -- not to my knowledge, no.
Q You listed the facts that you relied on in your report; right?
A Can you -- what do you mean by that?
Q Did plaintiffs' counsel provide you with any facts or data that is not listed in your reports and that you considered when forming your opinions?
A No. Yeah. All the data I used is listed in my report.
Q Did plaintiffs' counsel tell you to make any assumptions prior to forming your opinion in this case?
A They did not tell me to make any assumptions prior to forming my opinions in this case, no.
Q Okay.
A Yeah. No.
Q And I believe you said you reviewed the report of Dr. Alford?
A Yes.
Q And would you agree that Dr. Alford is an expert in the areas touched on by his report?
A I'm actually not familiar with Dr. Alford. So I have no reason -- I just don't have an opinion on

it.

Q At least in part, Dr. Alford uses your report and the data contained in it to form his own analysis regarding the issue of polarization in the elections you considered; right?

A He comments on it, the data.

Q And he uses the -- his report essentially uses the data that you use and the analysis that you did; right?

A I guess so. I mean, I think -- you know, my take on it is he reads the report and makes a comment on it. I don't know -- he's not doing any additional analysis to my knowledge.

Q Okay. Do you take any issue with reports being analyzed this way?

A Sorry. What do you mean by that?

Q Do you professionally have any problem with another expert or another political scientist using the data analysis that you provide and using it in their report rather than replicating, say, another EI analysis on their own?

A Well, I guess what do you -- I guess, it depends on what you mean by "have a problem with it." I think that it's -- I mean, to be clear, I think that it's fine to comment on other people's work.

Absolutely. I mean, how convincing it is is another matter; right?

Q Right. And maybe I'll drill down just a little bit more. So you use ecological inference in your analysis; right?

A Yes.

Q And you're confident that the EI analysis you performed is credible within the field of political science?

A I am.

Q And so do you see any benefit to Dr. Alford performing his own EI analysis of the data you analyzed for purposes of his own report? In other words, do you expect his results would differ significantly from the results you found?

A I would expect that he would find similar results to what I found. I think it could be a useful exercise for him to perform the analysis just to check for himself. But I wouldn't expect it to be different.

Q Okay. So you're comfortable with the statistical value of your analysis?

A I am.

(Exhibit 3 Marked for Identification.)

BY MR. JACOUTOT:

Q So one of the things Dr. Alford -- and while

we're talking about him so much, let me pull up his report and send it over to you. This will be marked Defendants' Exhibit 3. And I'm sending it over to you now. So let me know when you've got it.

A Yes, I've got it.

Q And is this the same report from Dr. Alford that you reviewed prior to your deposition, the rebuttal report?

A Yes.

Q Okay. So one of the things Dr. Alford does in his report is use the analysis you provided in order to determine whether the data supports your conclusion that there's racially polarized voting in Georgia in the geographic areas you analyzed. Is that fair?

A That's what -- yes. That's fair.

Q And he determined that your results do not support the conclusion that black and Hispanic voters in Georgia are voting for candidates on account of their race; right?

A That was what he wrote in his report.

Q And to be clear, you did not look at whether party affiliation better accounts for the voting behavior of black and Hispanic voters than does the race of the candidate; right?

A Yeah. So I did not look at that question. I

1 think the reason why is that I'm engaged in -- my goal
2 here is to describe how people are voting. And so, you
3 know, the challenge we're facing is we want to
4 understand why -- or we want to understand voting
5 behavior for different racial groups. Because of the
6 secret ballot, we don't observe how these different
7 groups are voting.
8 Ecological inference, the goal I'm setting
9 out to meet is to describe how these different racial
10 groups are voting. And so that was the goal of my
11 report, and that's what I did.
12 Q Okay. That's fair enough. And that was --
13 my next question was why. So thank you.
14 All right. Now we can turn to your report
15 which is, I believe, Exhibit 2. So if we can scroll to
16 page 3.
17 A Okay.
18 Q Okay. It states in paragraph 3 that you have
19 worked as a consultant on several matters related to
20 voting rights and redistricting; is that right?
21 A Yes.
22 Q I think it says you coauthored along with
23 Professor Gary King the analyses of the Arizona
24 Independent Redistricting Commission, Congressional and
25 Legislative District maps submitted on behalf of the

commission to the department of justice in 2012?
A Yes.
Q First, that's the same Gary King that developed ecological inference; right?
A Yes.
Q Okay. So when you were working on these, were you a student at the time?
A I was a graduate student in the government department at Harvard. In this particular matter, though, I was a coauthor on the project and report.
Q Okay. Were you paid for your work on this analysis?
A Yes.
Q And describe the nature of the consulting work that you performed for this matter.
A So I was -- we were working for the Arizona Independent Redistricting Commission, which is, you know, tasked with redrawing the maps in Arizona for the congressional and legislative districts.
At the time, Arizona was a state that was subject to Section 5 of the Voting Rights Act. And so any changes that they made to their maps, you know, had to be precleared in some way. And so as part of that, we analyzed racially polarized voting. In the previous maps and in the maps they were, you know, planning to

try to enact and studied racially polarized voting in those maps.

Q Okay. And did the commission hire you? Excuse me.

Did the commission hire you as a consultant or did Professor King?

A That's a good question. I can't say I totally recall the details of that. It was a while ago. But if I -- I think -- if I recall, I mean, I think I was paid by Professor King's consulting firm. But I don't really recall any, like, specific contract or agreement.

Q And this consulting that you did, did you testify at any point in before -- well, let me ask you this. We can strike that question.

But in the consulting work that you performed here, did you -- did you go before the commission to state your opinions, or was it just contributing to the report?

A No. If I recall, we went -- I think we went before the commission and had to present the report, if I recall.

Q Okay. So in 2012 you were a student at Harvard; right?

A Yes.

Q And that would be in the -- I guess that would have been sort of towards the end of your master's in your political science?

A Well, so I think probably -- let's see. Yeah. It would have been -- you know, so the way it worked at Harvard was a master's degree was kind of on the way to getting a PhD. So I guess officially I was granted the master's probably in like May or June of 2012. And so I think I would have been -- you know, I don't totally remember the exact dates, but I think I was probably working for the Arizona Independent Redistricting Commission for 2011, more 2011 with maybe parts of 2012.

Q Okay. How long is the -- is that program to get the PhD at Harvard? Because it looks like it might be six years after -- a six-year program or something.

A There's no set time. I mean, for me it took six years. Some people it takes longer. Some people it takes shorter.

Q Okay. So you were also a consultant on the racially polarized voting analysis prepared for the Virginia Redistricting Commission in 2021; is that right?

A Yes.

Q And were you paid for this work?

A Yes.
Q Do you recall how much?
A I believe it was $350 an hour.
Q Okay. Do you recall by who you were paid?
A So I think in that case, I was paid by, I believe it would have been, Max Palmer's consulting firm, which is just an LLC I think.
Q Okay. And Max Palmer, does that refer to Dr. Max Palmer who is an expert in some of the companion cases here?
A Yes.
Q Okay. And so you say -- it doesn't say who you were a consultant for in the report. So when you say you were a consultant, it was for Dr. Palmer's LLC?
A No. I mean, we -- again, we coauthored a report that we submitted to the Virginia Independent Redistricting Commission. So I think as a matter of, like, the payment, it went through Dr. Palmer's LLC. But I would say, you know, given that I was coauthoring the report and we were, you know, presenting to the commission, I would say I was a consultant to the commission.
Q Okay. And I think you describe it as -- let's see here. It says "I also have worked as a consultant on the racially polarized voting analysis

prepared for the Virginia Redistricting Commission in 2021."

When you say "the," are you saying that it was only the report submitted? Because typically, as I understand it, there are multiple parties that might be submitting reports.

A That's a good question. I actually don't know the answer if there were other analyses or not.

Q Okay. Do you know what the outcome was? Did the -- I'll rephrase that.

Did the commission accept your report?

A Yeah. They accepted the report. Yeah, to my knowledge. I mean, this was a report that was meant to inform them as they were drawing the maps. So it was -- it's a little bit less cut and dry than, for example, in the Arizona case where we were submitting it, and there was like a specific goal of getting the map precleared.

Q In this report, did you prepare any illustrative maps as a part of your analysis?

A No. We were just analyzing maps that were given to us.

Q And determining whether they were racially polarized -- excuse me -- determining whether the districts -- strike that.

You said you were analyzing maps and that analysis included the analysis of whether those maps contained districts that were racially polarized?

A We looked at a variety of different geographic levels including at the district level, yes.

Q Okay. Is this the first time you've prepared an expert report in a lawsuit where you analyzed racially polarized voting in a Section 2 claim?

A Yes.

Q Let's turn to your executive summary. So it states kind of at the beginning here that "Based on my analysis, quote, I find that there is evidence of racially polarized voting," and it goes on to say that you find it in Georgia overall in some of the senate districts and some of the legislative districts as well. And we won't go into the specific breakdown because that's later in your report.

But you also state that you analyzed -- that you primarily analyzed racially polarized voting between black and white voters but in a handful of districts identified by plaintiffs, you analyzed racially polarized voting between black and Hispanics and white voters; is that right?

A Yes.

Q So you said these districts, these were

identified by plaintiffs?
A Yes.
Q Did the plaintiffs tell you -- did the plaintiffs tell you why they selected these districts?
MS. BERRY: I object to the extent this calls for privileged communications.
BY MR. JACOUTOT:
Q Well, when you say also -- Dr. Schneer, when you say that the plaintiffs told you, you're referring to the plaintiffs' attorneys; right?
A Yes.
Q Okay. I think in paragraph 6 below you list which of the congressional districts and the state senate districts and the state legislative districts that you find racially polarized voting; is that right?
A Yeah. Yes.
Q Okay. And then we don't have to go through the breakdown. But it's safe to say that you find racially polarized voting in the vast majority of them with only a handful of areas that don't have racially polarized voting or are not convincing enough to demonstrate racially polarized voting?
A That's accurate.
Q What is an example of a district where you were -- you were not convinced that there was enough

evidence to show racially polarized voting?

In other words, you know, there's -- obviously there's sort of districts where there's clearly not racially polarized voting. What was one where there was some evidence but not enough for you to categorize it as racially polarized voting if you recall?

A If I recall, Congressional District 5 is an example of that where -- so first maybe I should clarify what I mean by "racially polarized voting." So to me, racially polarized voting means, first, are minority voters voting cohesively for a candidate for choice.

Second are -- is a majority group voting cohesively or voting as a bloc for a different candidate of choice.

And third, the other element to this is given that pattern of voting, does the bloc voting by the majority group prevent the minority group from electing their candidate of choice. So that's what I mean by "racially polarized voting."

And so in my report, you know, to look at this, I'm looking at first the patterns of voting behavior and then what I term performance, which is just is the majority, in this case white voters, voting

as a bloc to prevent minority voters from electing their candidates of choice.

And so an example of where I didn't find enough evidence to definitively say there was racially polarized voting I think would be CD 5. And the reason is because it's not clear from the analysis that white voters were voting as a bloc for a different candidate of choice as minority voters.

Q Okay. And if they're not voting as a bloc -- excuse me.

What if the white voters are voting as a bloc for a different candidate than the candidate of choice for minority voters, but that bloc -- that white bloc voting is insufficient to actually defeat the minority-preferred candidate, would you still find racially polarized voting in that situation or no?

A Well, I guess -- so if it's a scenario where -- where minority voters are still able to elect their candidates of choice, then, you know, the pattern of voting might be racially polarized, but I don't think it's like legally significant, you know, as -- you know, it doesn't meet all the standards I just mentioned.

Q Okay. Not legally significant. And do you have a definition for what you characterize as legally

significant racially polarized voting as distinct from racially polarized voting that is not legally significant?

A It's just that -- the definition I already gave is what I would say it was. I think -- I guess what I would say is I think outside of a legal context, racially polarized voting could just refer to this pattern of different groups voting differently. For the specifics of a case such as this one, it's the definition I just gave.

Q Okay. And we'll come back to that because I think you go into the definition, you know, a few times in your report. And I'm just going to go sort of chronologically -- not chronologically. I'm just going to go through paragraph by paragraph to make it linear. So thank you for that.

So if we go to paragraph 7. Let's see here. If you can just read that paragraph for me and let me know.

A Sorry. Just one moment. It's -- okay. I've read the paragraph.

Q Thank you. So in that paragraph, that first sentence of that paragraph, when you say -- at the end of that first sentence says "could clearly result in greater minority representation," are you referring to

the ability of minority groups to elect their candidate of choice or the ability of minority groups to elect minority candidates?

A I am specifically referring to being able to elect their candidate of choice.

Q Okay. And is that sort of what matters to you in a racially polarized voting analysis?

A Electing candidates of choice? Yes.

Q Yeah. I guess it matters to you more -- excuse me. Not more. When you're doing your racially polarized voting analysis and you're determining what, as you describe, as legally significant racially polarization, what you're looking for is whether the minority group is able to elect their candidate of choice, not necessarily that they're able to elect minority candidates; right?

A Yeah. So to clarify, one of the assumptions I went into this report with, which is my own assumption is that the most -- you know, basically the -- of all the elections I looked at since 2012, you know, roughly half of them in Georgia have a minority candidate facing a nonminority candidate. Georgia is a big state in that regard in that many states don't have so many elections where a minority candidate is facing a nonminority candidate. And so I knew that in some

past legal cases, not necessarily in Georgia but, for example, in the ninth circuit, that they had said that elections between a minority candidate and a nonminority candidate were more probative than other elections. And so because Georgia's a state where there are so many of those elections, I just went in with the sort of assumption that those could be a way of focusing my analysis and looking at that subset of elections.

So the focus of my report is on these 20 or so elections where a minority candidate is facing a nonminority candidate. But I analyze all the different -- you know, all the different elections. I think they're all valuable to look at. And ultimately, the thing I'm interested in most is electing candidates of choice specifically.

Q And if we actually go down to paragraph 8, I think this might sort of explain this because I noticed this throughout your report, but we can just use this paragraph 8 for example as now -- for an example for now, is that you seem to be almost using the terms minority-preferred candidate and minority candidate interchangeably. So if you compare the first sentence in paragraph 8 referencing minority-preferred candidates and the ability to elect them, the remainder

of that paragraph talks exclusively of minority candidates.

A I'm sorry if that was unclear. That's not what I was doing in my view. So what I did was I determined the minority-preferred candidate, so the candidate of choice, at the statewide level. And that is what I'm referring to by the minority-preferred candidate.

Subsequently, because I'm focusing my analysis on candidates facing where -- general elections where a minority candidate is facing a nonminority candidate and because, when I ran the statewide analysis, the minority-preferred candidate was the minority candidate in those -- in that subset of elections is true that those things coincide. But, you know, I mean, I tried to make it clear in the report those are kind of distinct concepts. For example, in the elections between two candidates where no minority is running, I still am talking about a minority-preferred candidate.

Q But you don't think those -- you wouldn't categorize those elections without a minority candidate -- strike that.

Even though there are minority-preferred candidates running in elections where there are no

minority candidates, you would prefer to analyze the elections where there are at least one minority candidate because those are more probative of racial polarization?

A I wouldn't say I would prefer to analyze those. That was just an assumption I made to structure the report based on some past things I was aware of. But I think it's valuable to look across all the elections given that some people have said that elections between a minority and nonminority are more probative. And given that Georgia is a state where there are many of those elections, I focused some of the analysis on those elections.

Q And you focused on those elections with a minority candidate because you agree with the courts that have said that they're more probative in terms of a racial polarization analysis?

A No. I actually don't necessarily agree. But I was aware of that finding. And so I view that as a tougher standard. And the thing about Georgia is, you know, there are -- there are all of these elections. And so it's possible -- you know, and so it's possible to analyze them.

In a state where there are no minority candidates running, I still think it's possible to do a

1 valuable analysis of racially polarized voting as well.
2 So yeah. So it wasn't my own personal belief that led
3 me to make that particular choice in how I structured
4 the report.
5 Q Okay. So I just want to be clear. You said
6 that you don't necessarily agree that election contests
7 featuring one minority candidate versus a nonminority
8 candidate are more probative in a racial polarization
9 analysis?
10 A Yeah. I'm not sure. What I'm saying is I
11 was aware of that finding. I think it's complicated.
12 And I'm aware that that's a standard some people use.
13 I view it as a stricter standard and one that's
14 possible to meet in Georgia because there are all of
15 these elections.
16 Q But certainly, it affected how you drafted
17 your report because, as you stated, you focused on
18 those elections; right?
19 A Right. Certainly, it affected how I drafted
20 the report, yes.
21 Q Okay. And to be clear, if you go down to
22 Footnote 18 on page 13, you state that "An election
23 between minority and nonminority candidates provides
24 variation in the race of the candidate and therefore
25 offers a test of whether race might matter in vote

1 choice among different voter groups"; right?
2 A Yeah.
3 Q So that seems -- is it fair to say that that
4 is you -- your acceptance of the courts -- of certain
5 courts' view that election contests featuring one
6 minority candidate versus a nonminority candidate are
7 more probative for the purposes of racial polarization?
8 A Sorry. My acceptance? Can you explain --
9 Q Yeah. It seems that you're accepting the
10 view because, well, you stated a couple of times that
11 you're focusing on not -- the election contests with --
12 that feature a minority candidate versus a nonminority
13 candidate. And then you also provide in the footnote
14 that it offers sort of a distinct test as to whether
15 race might matter in vote choice among different voter
16 groups.
17 So I'm just trying to make sure that I
18 understand your view. Because when I read that in the
19 report coupled with the focus on those contests, it
20 seems to me that you, as the author of the report, are
21 sort of agreeing with the notion that those contests
22 are more probative and thus more valuable to examine
23 than contests featuring only two white candidates. But
24 in your deposition today, it -- I don't think -- you're
25 saying that that's not true. Do I have that right?

A I mean, I think we're sort of splitting hairs here. It's a slight distinction. What I'm saying is I think in this -- in Georgia where ultimately, as you see in the report, I find, you know, pretty clear instances of racially polarized voting. And where there are a variety of these different types of elections, I think it's possible to meet that standard. So given that, that that was the -- that was sort of the idea I had in looking at this. Yeah.

Q Okay. And just -- the Footnote 18 refers back up to -- is contained in paragraph 21. And I just want to quote that portion of the report to you where you say "I rely" -- excuse me. "While I estimate RPV results for all statewide general elections since 2012, I rely on those elections in which a minority candidate was one of the two major party candidates running for office as most probative for making inferences about racially polarized voting."

So you agree that that's you accepting that standard or --

A Let me put it this way. For the purposes of this report, I think it meets that standard. And so -- and I'm showing that it meets that standard.

Q Okay. So help me sort of understand -- let me recall back to the beginning of your report where

you stated that what you're viewing when you do conduct your racially polarized voting analysis is you're looking at the -- whether a minority group votes for a particular candidate regardless of that candidate's race. That's what matters; right?

A Sorry. Could you say that again?

Q Sure. We were talking earlier about, I think it was -- I can go back up to paragraph 3 I think it was in or maybe -- no. Okay. I think it's paragraph 7 where it states "In terms of minority groups' ability to elect their candidates of choice in the enacted congressional, state Senate, and state House districts that I examine, revised maps could clearly result in greater minority representation."

Do you recall us talking about that paragraph?

A Yes, yes.

Q And I asked you what you meant when you were referring to minority representation, whether you were referring to minority candidates being elected or minority-preferred candidates being elected; right?

A Yes.

Q I'm sorry. Go ahead.

A Yeah. And I said minority-preferred candidates.

Q Okay. Now, on the other hand as we've discussed already at paragraph 21, we find that -- your paragraph -- excuse me. Your report states in paragraph 21 that you rely on those elections in which a minority candidate was one of the two major candidates running for office as the most probative for making inferences about racially polarized voting.

So my question is sort of how do these two -- how do these two things exist together? On the one hand, you say that for purposes of the racially polarized voting analysis, the salient question is whether minority groups are able to select the same preferred candidate regardless of race, but on the other hand, what race matters as more probative -- what -- the race of a candidate matters and is more probative. How are those two --

A I don't see the issue. So for me, I used that standard of looking at elections between a minority and nonminority candidate to just focus on these 20 or so elections. But I do the analysis for all of the elections and make a determination of the minority-preferred candidate for all of the elections.

I find, you know -- and so to me, this thing about the minority versus nonminority candidates is, you know, looking within a particular election. When

that's the case, I sort of narrow down some of the elections for purposes of discussion and to make the point that it -- that the results in Georgia meet the standard. But, you know, I'm still -- I'm not just taking as given that a minority candidate is the minority-preferred candidate. I do the statewide analysis to determine what the minority-preferred candidate is in every single election.

Q And I don't -- I don't mean to imply that you are taking it as a given that the minority-preferred candidate is a minority candidate. But I guess if a minority-preferred candidate being a minority candidate is more probative under the racial polarization voting analysis, then the race of the candidate matters when analyzing whether a district is racially polarized for purposes of Section 2; right? Because how could it be more probative but also not matter at the same time?

A Again, I'm not quite sure how to say it a different way. In my view, the determination that elections between a minority and nonminority candidate were more probative helped me focus on the subset of elections. But for these elections, I'm still determining who the minority-preferred candidate is. I'm running the same type of analysis. And I also look at elections with two nonminority candidates. And so

to me, you know, the race of the candidate helps focus the analysis. But, you know, I'm making a judgment for each election is there racially polarized voting occurring or not. And I feel confident in being able to make that judgment for elections between two nonminority candidates as well.

Q Okay. And your analysis shows that -- excuse me.

You sort of state in your footnote here that variation in the race of the candidate offers a test of whether race might matter in vote choice among different voter groups. Do you see that?

A Yes.

Q And your analysis -- sorry. I didn't want to interrupt you.

A I was just saying yes, I see that.

Q Okay. And your analysis actually shows that changing the race of the candidate does not affect the behavior of the voting groups that you analyzed; right?

A So I don't agree with that. My analysis does not show that. If you -- if you look at the line that says "an election between a minority and a nonminority candidate." So in my view, there's a difference between looking within elections and looking across elections. And so the thing I'm referring to here is a

1 particular single election with a minority versus a
2 nonminority candidate.
3 Q Okay. But I guess my question is -- so are
4 you -- my question was your analysis shows that
5 changing the race of the candidate does not affect the
6 behavior of voting groups that you analyzed, and you
7 disagree with that; right?
8 A Sorry. Could you state that again?
9 Q Yeah. Sorry. I said that a little fast.
10 Your analysis shows that changing the race of the
11 candidate does not affect the behavior of the voting
12 groups you analyze; correct? And then you said, "No.
13 I disagree with that"; is that right?
14 A Yes, I disagree with that statement. So, you
15 know, in my view, that's not what my analysis shows.
16 Q Okay. Let me direct your attention back to
17 Dr. Alford's rebuttal report, and it is on page 3.
18 A Okay.
19 Q And it says in the middle of the second
20 paragraph, basically in the middle of the page, it says
21 "In all 41 of the 41 election contests examined,
22 minorities showed cohesive voting for the democratic
23 candidate. In contrast, white voters cohesively
24 favored the Republican candidate. Clearly, the
25 partisan label of a candidate matters as there was only

1 minimal variation in the estimated vote shares across
2 10 years and 41 elections ranging from
3 top-of-the-ballot presidential contests to down ballot
4 contests like public service commissioner."
5 Do you see that?
6 A Yes, I see that.
7 Q And I think he says "The key question is
8 whether the variation of the race of the democratic
9 candidate matter to either minority or white voters."
10 And I understand that you do not agree with
11 Dr. Alford that that is the key question. Is that fair
12 to say?
13 A Well, I mean, yeah. So I guess taking a step
14 back, the way I read this paragraph and the report is
15 in the sense we're engaged in fundamentally different
16 enterprises. I'm trying to describe how racial groups
17 vote and who their candidates of choice are and if
18 they're voting cohesively.
19 It seems to me in this paragraph what
20 Dr. Alford is trying to do is determine what is causing
21 how they vote. So I am pretty careful, I think, in the
22 work that I'm doing in this report to be focused on
23 describing how people are -- because I don't believe
24 that we're necessarily positioned at least with the
25 data that I was analyzing to determine if, for example,

party is causing people to vote the way that they are. And the reason is because, you know, what party you affiliate with is a choice; right? In some sense it's a downstream choice from things that, you know -- from, for example, your racial identity; right? And so I think all these other things affect the choice of what party you're in. And so that makes it complicated to actually attribute causality to party.

And so certainly, just by looking across these elections and comparing across elections, what Dr. Alford is identifying is a correlation; right? But ultimately the statements he's making are about causation, cause. And in my view, there's nothing in my report or in his analysis of the report that lets you prove from observing this correlation to making these causal statements. So that's kind of the leap where I most fundamentally disagree with Dr. Alford's analysis.

Q Okay. A couple things I want to unpack from that response. I think you mentioned that party can be a downstream choice of race; is that right? I think that's how you phrased it.

A Yeah. That -- you know, ultimately, party is a choice people make that -- and I think you could say that, in some sense, your racial identity precedes

that.

Q But your report that you're offering in this case didn't analyze that issue at all; right?

A Right. Because, again, I'm trying to describe how people are voting. I'm not trying to determine what -- I think determining how -- you know, explaining the causal factors that lead people to vote the way that they do is a very -- is a complicated enterprise. And that wasn't my goal with this report. You know, my goal was to determine racially polarized voting. And my understanding that I laid out earlier, in terms of the definition, is one that can be met by describing what people are doing. And so that's what I sought out to do in terms of who they're voting for.

Q Yep. And I understand that. But I guess what in your report do you see that -- do you see that contradicts the statement that I made earlier that said -- where I said your analysis shows that changing the race of the candidate does not affect the behavior of the voting groups that you analyzed?

Is there anything in your report that you can point to that would contradict that?

A Sorry. Contradict? I mean, so I think there's two pieces of that. One is there's this descriptive pattern that you're describing. You're

1 describing that pattern accurately. The leap that
2 you're making though and that Dr. Alford is making is
3 that you can attribute a cause, that the party is the
4 cause of that. And what I'm saying is that there's not
5 evidence to make that leap.
6 Q But there's also not evidence to suggest that
7 changing the race of the candidate affects voter
8 behavior in your analysis; right?
9 A I mean, I don't know that we need to go back
10 over this all over again. But, again, the -- you know,
11 that's -- I don't believe that's what you can -- the
12 statement you just made I don't believe you can
13 conclude what you're saying from my report, no.
14 Q So black voters in Georgia are uniformly
15 voting in support of democratic candidates --
16 correct? -- in the races that you analyzed?
17 A Yes. That's correct.
18 Q By a very large margin. Is that fair to say?
19 A Based on my analysis, yes, that is fair to
20 say.
21 Q Okay. But it's not true that black voters in
22 Georgia exclusively favor black candidates running for
23 election in Georgia unless that black candidate is a
24 Democrat? It is true to say that. Let me rephrase
25 that because that's going to come out poorly.

It is fair to say that black voters in Georgia favor black candidates in Georgia exclusively when those black candidates are Democrats; right?

A I don't know. I mean, again, I'm looking election by election.

Q And I'm referring to only the race -- the election contests that you analyzed in your report. Do you have any evidence in your report showing a situation where black voters in Georgia voted cohesively for a black Republican candidate?

A I don't have an election -- so first off, I do not, no. But I also don't have an election where even based on the standard that we've been disagreeing over of a nonminority versus minority candidate where there is such an election. So I would say I don't even have the data to -- like, the answer is of course not because there's not such an election that I'm aware of. There is an election between two black candidates.

Q And in that election between two black candidates, did the black voters of Georgia prefer the black Democrat candidate or the black Republican candidate?

A So I think you're referring to the Walker versus Warnock election. And they preferred Warnock in that election. But, again, while it's descriptively

true, I mean, these are people who also had very different policy positions and so on. The leap I'm taking issue with just overall is when Dr. Alford and in some of these questions you start talking about the party as this causal factor. And all I'm trying to say is that my analysis is descriptive. And I don't think that we're on sort of a firm grounding in social science to make this leap to attribute causality to a party.

Q Yeah. I definitely get that. And I'm not a hundred percent sure that Dr. Alford is attributing a causal connection in the statistical sense. Maybe the attorneys, myself included, have discussed it more colloquially or in a legal sense. But I don't see anything in this report attributing a statistical causality link between party polarization -- excuse me -- a statistical causal link between the results that you produced and party affiliation.

A I mean, he says "the partisan label of a candidate matters." I mean, that's a causal attribution in my view.

Q And your reports I think demonstrate that; right?

MS. BERRY: Objection. Asked and answered.

BY MR. JACOUTOT:
Q You can answer.
A Okay. Again, I don't think that my reports demonstrate that, no.
Q So it's your testimony that the data that -- the analysis that you provided doesn't demonstrate that party affiliation matters to black voters in the contests that you analyzed?
MS. BERRY: Objection. Asked and answered.
THE WITNESS: Yeah. So my testimony is that I'm engaged in this exercise of trying to describe how different racial groups vote. And I'm not saying that party doesn't matter at all. But I'm saying that we're not -- based on the analysis I do, we're not positioned to say that it matters or the extent to which it matters. Right.
BY MR. JACOUTOT:
Q Can you point to anything in your analysis that demonstrates that the race of the candidate matters to the black and Hispanic electorate of Georgia in the cases -- excuse me -- in the contests that you analyzed?
A That wasn't the goal of my analysis.
Q Okay. So -- but the answer then is that you can't; correct?

A Sorry. That the -- I can't point to something in the analysis that shows that the race of the candidate matters. Is that the question?

Q Yeah.

A Well, I mean, I think that, again, I'm just trying to describe how groups -- how these groups are voting. It is the case that when a black candidate faces a white candidate, we're finding that black voters are cohesively supporting the black candidate. So to the extent you look within an election, that there's that choice. I'm finding support for that. But, again, what I would -- like, I guess what I would say I want to be cautious about the causal language. Ultimately, I'm trying to describe the patterns of how these different racial groups are voting.

MR. JACOUTOT: Okay. We've been going for an hour 15 or so. Do you guys want to take 10-minute, 15-minute break and come back?

THE WITNESS: Sure. Let's do ten minutes.

MR. JACOUTOT: So come back at 10:25.

THE VIDEOGRAPHER: The time is 10:15 a.m. We're off the record.

(Off the record 10:15 a.m. to 10:26 a.m.)

THE VIDEOGRAPHER: The time is 10:26 a.m. We're on the record.

BY MR. JACOUTOT:

Q Okay. Welcome back, Dr. Schneer.

A Thank you.

Q I've got one more sort of question in line with what we were talking about earlier. And I might get an objection as to asked and answered. But I want to make sure I phrase it the way I'm trying to get, and then we can move on from this.

But my question is is there anything in the report that you provided that indicates that the race of the candidate affects the way black and Hispanic voters are voting in the elections that you analyzed?

MS. BERRY: Objection. Asked and answered.

You can answer.

THE WITNESS: I can answer? Okay.

So my answer to that is that the thing I'm trying to do is describe how different racial groups vote and not to make causal attributions. But I do show that for elections between a white and -- or a minority and a nonminority candidate, that, in each of those elections -- I think there's 20 or so of them -- the black voters and sometimes Hispanic voters in the elections that I analyzed vote cohesively for the minority candidate.

BY MR. JACOUTOT:

Q Okay. That's fine. Turning back to paragraph 9, because we went a little bit out of the order there but we were talking about it. So I figured it was probably best to go into it. So we can turn back to paragraph 9 though.

A Of my report?

Q Of your report, yes. Sorry. Let me and we talked -- sorry. Let me know when you're there.

A Yes. Just a minute. Okay.

Q So we talked a little earlier about your definition of racially polarized voting. And what I see here at the beginning of paragraph 9 is sort of effectively a definition that you used. And it says "Racially polarized voting occurs when a majority group and a minority racial group vote differently."

Is that fair to say that that's broadly the definition that you used for racially polarized voting?

A It's fair to say broadly that's what it is. You know, I think what I do in my report is I look specifically at these three different elements. I think I list two of them here. First, do minority voters vote cohesively for a candidate of choice? Second, do white voters the -- in Georgia, the majority -- do they vote as a bloc for a different

candidate of choice? And then, third, what I term the performance analysis in my report, but is it the case that the white voters voting as a bloc prevent minority voters from electing their candidates of choice? Those three elements.

Q Okay. So you would consider an election where 51 percent of black voters voted for Candidate A and 49 of black voters voted for Candidate B along with 51 percent of white voters voting for Candidate B but only 49 percent of white voters voting for Candidate A, would you consider that a racially polarized election because they are majorities, but they're bare majorities?

A So the standard that I use in my report is whether the lower confidence interval in my estimate overlaps with the 50 percent threshold. So I guess the problem with that scenario is I'm never observing with certainty how these different groups are voting. So in a way, I'm never confronted with that particular issue -- right? -- because there's always some level of uncertainty about the estimates.

And so the standard I use is the lower -- you know, does the lower confidence interval overlap with the 50 percent? Does the upper confidence interval for the white voters overlap with 50 percent?

But the thing is in Georgia, the extent of the racially polarized voting is so great, right, with black vote -- that it's never -- I'm never confronted anywhere to my knowledge with that scenario.

Q Okay. And something else when I was reading the report, if we go to paragraph -- hold on. Sorry. Okay. Footnote 1 in paragraph 9. So the footnote is referring to a paragraph portion that says -- parenthetical, it says "(Specifically, do more than half of white voters oppose the minority candidate of choice?)"

And you phrase it in those sort of terms as the minority candidate of choice as the salient inquiry. But then the Footnote 1, which is referencing a book from Bernard Grofman and Dr. Handley, the footnote that is quoted -- excuse me. The portion of that book that is quoted says that "Cohesiveness is to be measured with reference to the voting patterns and that minority groups are considered politically cohesive if they vote together for minority candidates."

How do you explain sort of the discrepancy between the quoted material focusing on minority candidates and the body of the paragraph which focuses on minority candidate of choice?

A Yes. I mean, I think that that quote must be referring to, you know, like maybe courts from a particular circuit. So I mean, I think this brings us back to the same set of issues we've been discussing which is that is a stricter standard. And in Georgia, as I see it, that standard is met, but also the looser standard is met as well.

Q Okay. If you'll go to paragraph 12 for me. It's a large paragraph. I'm looking for paragraph -- excuse me -- page 8. This paragraph 12 encompasses both of those pages.

A Okay.

Q So you state that you use -- do you pronounce it RxC EI or is it --

A Yes. RxC.

Q Okay. RxC method of ecological inference is what you use. And you don't use any other method; right? It's just strictly RxC EI analysis that you conduct?

A Yes, that's correct.

Q Is there any reason why you use -- why you don't include the other kind of widely accepted methods of analysis whether it's a homogenous precinct or ecological regression?

A In my view, the RxC method of ecological

1 inference kind of takes into -- sort of incorporates
2 the benefits of those methods. So specifically, the
3 RxC method of ecological inference does actually
4 incorporate the method of bounds which is sort of a way
5 of describing homogeneous precincts. So it takes
6 advantage of those precincts where you can put narrower
7 bounds on how groups are voting just based on how
8 homogeneous the precinct is. And then it also -- you
9 know, it's fundamentally doing something similar to
10 ecological regression which is looking at how --
11 essentially looking at the relationship between
12 variation in the racial composition of precincts and in
13 the vote choices of those precincts which is what
14 ecological regression is doing.
15 One advantage of ecological inference over
16 the ecological regression is with ecological
17 regression, because it's totally linear, you can
18 sometimes get estimates that are outside, that are
19 above one or below zero. It doesn't happen with the
20 ecological inference. So in my view, ecological
21 inference is incorporating kind of the benefits of
22 these other methods.
23 In practice, if you -- you know, there have
24 been studies sort of comparing the results you get
25 across these different methods. And in many cases,

ecological regression and ecological inference yield very similar results. But at least some work I've seen suggests that in some scenarios ecological inference performs slightly better.

Q Okay. Let me -- let's look at the elections that you examined. So if we go to paragraph 18 on page 11.

A Okay.

Q You state that you estimate EI models using statewide general elections occurring between 2012 and 2022. And there's a Footnote 16 referring to it looks like the decision you made to not include the election for the 2020 U.S. Senate special election.

A Right.

Q And I think you say the reason for this -- the reason for this is that the election is qualitatively different from the others as it presents an expanded set of candidates, multiple minority candidates, and no candidate receiving a majority of votes.

Is that fair to say that that's why you decided just to exclude it?

A Yeah. I excluded it because -- I mean, yeah, for those reasons. But mostly the multiple candidates just makes it harder to draw a clear inference in my

view.

Q Okay. Is there -- do you see any benefit of maybe including it but not allowing it to alter your conclusions given its differences but still including it in the report?

A I don't know. I'm not sure. I mean, I guess, you know, ultimately, I didn't include it. I guess you could make an argument of putting it in the appendix. I don't think it matters really one way or the other.

Q Okay. Paragraph 20, just the next page over, you state in the second sentence that "Primary elections may be of use in racially polarized voting analysis, but in my view studying them is not necessary or sufficient for drawing conclusions about racially polarized voting in Georgia general elections."

If you're not studying primary elections, how are you able to determine -- or are you able to determine whether voters are simply voting for a candidate based on their party as opposed to based on their race?

A Well, again, that goes back to this kind of fundamental point I'm trying to make, which is I'm not trying to disentangle those things in my report. I'm describing how these different racial groups vote,

which, in my understanding is what I need to know to make this determination about racially polarized voting.

I think the issue with the primaries is -- which I lay out in the report -- is that the -- you know, for one, the electorates differ. So ultimately what I'm interested in this report is electing candidates of choice, which occurs in the general election; right? And so to the -- you know, so there's an element to which the electorate in the general election is very different than in a primary election. And so you can draw inferences about a primary electorate that may or may not carry over to the general election and vice versa. So that's kind of -- that's the caution I have with primaries. I don't think that it's necessarily wrong to look at primaries. But for -- in my view, for the -- what I'm doing in this report it, as I said, was not necessary, nor would it be sufficient to, for example, just look at primaries.

Q Okay. I bring you down to paragraph 27.

A Okay.

Q The second sentence in paragraph 27 states "When a minority candidate was not one of the two major party candidates, minority voters continued to vote

cohesively supporting particular candidates at overwhelming rates."

A Okay.

Q Is this consistency that you're observing here among candidates regardless of whether they are a minority or white indicate that race has little or no effect on the choice of the minority electorate?

A In my view, no, it doesn't.

Q Okay.

A Just to clarify, again, I'm trying to describe how people are voting. And so to draw like this sort of a clear -- you know, to draw clear conclusions about the causal effects of these various issues we're speaking about, just -- that's not what I'm trying to accomplish with my analysis.

Q Let me ask you this: Does -- let me put this to you and let me see if you agree or disagree with me though. The consistency that you observed there doesn't demonstrate that race of a candidate matters to the minority electorate? Is that fair to say?

A Can you say that one more time?

Q Yeah.

A There's a couple double negatives there.

Q Yeah. Sorry. It has a negative. So the consistency that you're observing and commenting on in

1 paragraph 27, this does not demonstrate that race of
2 the candidate matters to the minority electorate;
3 right?
4 A The -- well, the quote that you read was
5 about when the minority candidate was not one of the
6 two major party candidates. So it's certainly -- when
7 I'm looking at two candidates of the same race, as you
8 had read out, in that case, I'm not making -- you know,
9 I don't see how I'd be in a position to make a judgment
10 about the race of the candidate.
11 Q So paragraph 27 says "The results are
12 generally similar across other elections I examined
13 with minority candidates."
14 So you were -- before that, you were talking
15 about how 96 percent of the Hispanic voters supported
16 Stacey Abrams in the 2018; right?
17 A Right. Yes. So earlier in the paragraph,
18 sure. Yes.
19 Q And then you say "The results are generally
20 similar across other elections I examined with minority
21 candidates."
22 A Right.
23 Q So fair to say that roughly similar results
24 for other minority candidates.
25 Then you go on to say "When a minority

candidate was not one of the two major party candidates, minority voters continued to vote cohesively supporting particular candidates at overwhelming rates."

A Yes.

Q So when I asked you -- then I posed the question to you, surely, this does not demonstrate that race of the candidate matters to the minority electorate; right? In other words, you don't look at that data and conclude, well, race clearly -- race of the candidate clearly matters. That's a fair statement; right?

A Right. I mean, again, so just to sort of retrace our steps here, I'm trying to describe how people vote, not understand the reason -- you know, why they vote the way they do. I look at elections between a minority candidate and a nonminority candidate. And in each of those cases, black voters and Hispanic voters are cohesively voting for the minority candidate. I'm not saying that doesn't mean anything. What I'm just saying is that I'm not positioned to -- I'm not trying to do a causal analysis of the effect of race on voting. That's all I'm trying to say.

Q Understood. And I'm essentially trying to clarify the bounds of your analysis and what it does

and doesn't demonstrate or what it's being offered for. And it sounds like we're on the same page because you say, well, I didn't look at that. And of course, if you didn't look at it, then you're not claiming that your analysis demonstrates it; right?

A I don't think in my report I'm making any causal statements at all. I mean, as we talked about, I mean, I do -- you know, based on past findings, I do look -- I do focus on these particular types of elections. But, again, I'm just trying to describe what is happening in these elections. And so ultimately, I'm interested in candidates of choice, you know, regardless of the race of the candidate.

Q Just give me a second. I'm just kind of scrolling through the report.

If you could turn to paragraph 45 for me. It's on page 36.

A Okay.

Q The second sentence says "I have elected to report all results because with the Bayesian estimation methods used for EI, they remain valid for even small samples; however, it is worth noting that some estimates will have wide confidence intervals, not necessarily due to voter behavior but simply because of the limited data available."

My first question is the Bayesian estimation methods, can you describe what those are?

A Sure. I mean, in short, the approach is that you're trying to -- I guess it depends how technical we want to get here. I'll try to describe it in a couple sentences.

Q Let's start with the least technical version for me and then we can increase from there.

A Right. So I mean basically, it's a -- what we're trying to do is, you know, we have -- we're trying to understand voter behavior of these different groups. We go into this exercise without knowing really anything about how these different groups are voting. We observe data; right? In this case, we observe the precinct level election totals for different candidates. And we observe the precinct level racial composition of the electorate, of who turned out to vote. And given the patterns in that data, we can update our beliefs about how people are voting.

And so what the Bayesian estimation is doing is it's essentially taking a bunch of draws to understand what distribution on the given parameters describing how people vote, sort of explain the pattern of data that we're observing.

And so ultimately what we get is a distribution of different parameter values for each racial group in terms of the candidates that they're voting for. And so ultimately, you know, what we do to get one point estimate is we take the mean of that distribution of parameter values. And to get confidence intervals, we take the 5th percentile and the 95th percentile of the draws. And so the distinction here is that in the Bayesian method, you know, you're starting with this sort of uninformed higher belief, and you're looking at the data to update your belief.

So in theory, you could even just look at one -- you know, one data point. You wouldn't update your beliefs very much. But it's still -- you know, it's still okay to do that. And it's reflected in the uncertainty -- it would be reflected in the uncertainty in the confidence intervals.

The distinction here is between this Bayesian approach and, say, a frequentist approach where sort of the -- being able to get a point estimate that you think is accurate -- is accurate for the sort of true underlying parameter that you're trying to estimate, that relies on the sample getting larger and larger. So that's -- really just the distinction I'm making

here is that I'm still producing estimates even if I don't have that much data. And the uncertainty in those estimates are going to be reflected in the wide confidence intervals.

Q So using -- would you say using the Bayesian function -- forgive me if that's not the right vernacular. But Bayesian function helps at all with minimizing the distribution of the confidence interval, the size of the distribution? Or is it --

A No, no. It doesn't -- it doesn't do that at all. It's just -- it's just a -- I mean, anytime you're seeing ecological inference, to my knowledge, people are using the same approach. And it's just the method by which you're producing your estimates.

Q Okay. So I've heard of Bayesian -- in prior cases I've worked on, we've discussed using Bayesian improved surname geocoding for redistricting.

A Sure.

Q Is that similar to what's being used here? It's just kind of aiding and filling in gaps from the traditional EI analysis, or is it always used in EI analysis?

A No, no. This is always -- this is the traditional EI analysis.

Q Okay.

A People often just don't mention -- I mean, this is maybe like too much information. But, you know, often people just aren't mentioning the specific method they're using to actually estimate the parameters. It's a traditional EI analysis.

Q Okay. That makes sense. I appreciate that.

And you explained it perfectly well for someone like me. So thank you.

So I want to kind of focus in on the part of that sentence where it says, "However, it is worth noting that some estimates will have wide confidence intervals, not necessarily due to voter behavior but simply because of limited data available."

Do you see that?

A Yes.

Q So if the confidence intervals are wide, how does that -- or does it alter -- excuse me. Let me rephrase that.

If the confidence intervals are wide, does that alter your view on the usefulness of the data presented?

A No, it doesn't. I mean, it depends on sort of the pattern, the overall pattern of results; right? So, you know, what I'm doing in that sentence is explaining that, you know, ultimately, the confidence

intervals that you have on a point estimate, they reflect a couple -- I'm just sort of pointing out that they reflect a few different things; right? One thing they could reflect is you just don't have that many observations; right? Maybe you're analyzing a district with just a few precincts. Or -- but it could also reflect, in theory, something about voter behavior.

What I'm saying is that, you know, given that I know that I'm looking at these -- you know, I guess in this case I'm looking at House districts which are, you know, geographically smaller and provide less data. I'm just noting that the wide confidence interval is, in my view, likely due to just having less data. And, you know, so I guess what I would say is I think in a case like that, it's just important to look at what the results actually are; right? So it's a case-by-case thing. And, you know, you can sort of assess for the given estimates, are they all pointing in the same direction? In what share of the time does the 95 percent interval include the 50 percent threshold? And at what point does it not? And make some sort of a judgment about -- you know, about the elections you're looking at.

Q And that sort of touches on my next question because like when I look at an estimate -- or excuse

me -- a EI analysis that contains, you know, a confidence interval that's extremely wide, like 30, 40 points, something like that, 50 points even, I instinctively will not chalk up as much value to the median figure that's presented because -- you know, as distinct from seeing a confidence interval that's, let's say, between 97 and 98 and you put your median at 97.5, I feel that there's a high degree of confidence in that median value closely representing the reality of the election that you're analyzing. So I don't feel as confident in, let's say, you have a confidence interval that spans from 50 -- or let's say 45 to 75 and, you know, you have your median value there at -- and I'm forced to do math -- 60. I think it's 60. I don't know. Don't hold me to that.

Do you see what I'm saying? Is that how you view the confidence intervals? Or do you view them affecting the value of the median value provided at all or no?

A Well, so just to clarify a little bit. So, you know, generally the point estimate is the mean of the different distributions. And so, you know, the point estimate is still the point estimate. I think there's value in knowing what that point estimate is. But I do agree that, you know, the confidence interval

reflects the uncertainty in the estimate. So to the extent it's -- you know, for example, if -- taking it to an extreme, if you had a confidence interval that ranged from zero to a hundred, certainly in that case, you know, there's a lot of incertainty in the estimate. It is less informative than what -- where it's a very narrow confidence interval. So I certainly agree with that statement.

I think when you're looking at, you know, a -- when you're looking at small districts and you are, you know, trying to understand what's going on in them, I think ultimately you have to look at the balance of the data as well. I do think if you have a bunch of point estimates all pointing in the same direction, that's also informative. So I guess I don't think there's a hard and fast rule for this. You know, I think you have to kind of look at the estimates and make a case for what's reasonable, you know, given the uncertainties you have in the estimates.

Q Okay. That makes sense. So if we can turn to page 44 of your report. It's the top of the page. It's entitled "Clusters."

A Okay.

Q Can you just kind of describe to me or -- is using clusters something that you typically would do in

a report on racially polarized voting?

A Yeah. So in this section of the report, I'm using clusters that were created by the map drawing expert Moon Duchin. Yes. I do think -- yes, I mean, I think it is reasonable to -- I don't know exactly what the right language is -- clusters, regions, this sort of thing. You know, I think in instances where you want to understand the voting behavior in a particular region of a state or part of a state, I think it's totally reasonable to study the voting behavior, you know, in that particular region of the state. So essentially, that's what the clusters are doing. Yeah.

Q So if you go to paragraph 54, I want to just talk to you broadly about it. If you want to just read it to yourself and then let me know, we can talk about it.

A Okay.

Q So you note that where there is a minority candidate against a nonwhite minority candidate, confidence intervals never overlap the 50 percent threshold for these elections. And because of that, you have, I guess, a high degree of confidence that Hispanic voters are joining black voters in supporting the same candidate of choice. Is that fair? You don't write that, but that's sort of what I'm getting when I

read it.

A Yeah. I think -- well, I think -- I'm just trying to remember what this paragraph is saying. I mean, I think, you know, it's a little bit -- essentially that's what I'm saying. I mean, I think, you know, I refer to the Atlanta cluster in particular.

Q You say "For the other House clusters, while there are some uncertainties, my estimates, again, suggest that Hispanic voters support the same candidate as black voters in all the past statewide elections that I examined."

So is the uncertainty that you're referencing there due to the fact that the confidence interval does dip below the 50 percent threshold in some of these House clusters?

A Yeah. Exactly. You know, in each case, the -- I believe in each case the point estimate -- so, you know, if I had to give you my best estimate of the vote share for a particular candidate of choice among a given voter group, my best estimate is that Hispanic voters are joining with black voters to vote for the same candidates. But, you know, in some of these regions, for example, there's not -- you know, Hispanic voters don't comprise, like, a huge share of the electorate. For various reasons, the estimates are a

bit more uncertain. And that's what I'm referring to. Yeah.

Q So you're commenting more on the -- really on the general trend in the race of the clusters that you examined rather than any specific election contest because -- is that fair?

A Well, so I'm studying election by election here. And I'm just interpreting the results, you know, election by election. And, you know, if you look election by election, there are certain elections where the point estimate is that Hispanic voters share the same candidate of choice as black voters but that there's some uncertainties in that estimate. That's essentially what I'm referring to.

Q Okay. What about like a case -- a situation -- this is a bit of an outlier in the chart obviously. You can just tell by looking at it. But if you look at the Atlanta SD 2018 secretary of state runoff on page 47, which is the table sort of reflecting these analyses.

A Yeah.

Q That one has a confidence interval that, you know, is predominantly below the 50 percent threshold, and the mean point is also below the 50 percent threshold. That particular race -- for that particular

election contest, would you consider that cohesive voting amongst Hispanic and black voters?

A No. I mean, that's a, you know, that's -- that is definitely an outlier. And, you know, I think it's worth noting that in a runoff election, electorate's also different, right, than the general election electorate. And -- but, yeah, in that case, if you were just looking at one specific election, you know, the estimate for the Hispanic voters, it wouldn't be -- I wouldn't have -- you know, I wouldn't -- I wouldn't use that election to conclude that, in that election, Hispanic voters are joining black voters for the same candidate of choice.

Q Okay. So then, you know, the uncertainty that you're referring to in paragraph 54 is the confidence interval's dipping, but you conclude nonetheless -- excuse me. Is the confidence interval dipping below 50 percent amongst black and Hispanic voting populations? But you include nonetheless that, because of the general pattern in all the races -- election contests that you're examining, you're still -- you're still willing to say that Hispanic voters supported the same candidates as black voters in all of the past statewide elections?

A No. I mean, I'm trying to make a judgment

about racially polarized voting as it has occurred historically in this region of Georgia. And I look election by election. And in particular, I guess, the -- you know, I'm actually focusing, again, on the majority versus minority -- elections pitting a minority versus a nonminority candidate, which it turns out is not the case for either of those runoff elections. So that's I think the -- that explains, like, the specifics of that language.

But, again, yeah. I mean, I'm looking election by election. And in, I think -- I guess -- I mean, I said in the report. So I guess it must be in all of those elections where a minority versus nonminority candidate face each other, the minority-preferred candidate coincides for black voters and Hispanic voters. And Atlanta, the confidence interval for Hispanic voters never overlaps with the 50 percent threshold for those elections.

Q Yeah. That makes sense. I think it's helpful to put it into context of it being a minority versus a nonminority election. So I'm just confused how --

A I mean, but just to be clear, you know, looking across all the elections and making those judgments election by election for all the elections I

examined, I mean, I still think that that Atlanta graph is pretty strong evidence of racially polarized voting because in the vast, vast, vast majority, when the case of times when you go election by election, there's in my view, clear, you know, given the -- based on the standard I'm using, racially -- you know, minority voters, in this case Hispanic voters and black voters are both supporting the same candidate of choice and white voters are voting for a different candidate of choice.

Q Okay. Yep. Gotcha. So if you could turn to paragraph 59 for me.

A Okay.

Q "CD 7 is a multi-racial district in which no one racial group comprises a majority of the electorate. Based on historical elections, minority candidates in these statewide elections would have received a majority in the district 65 percent of the time. And candidates" -- I'll leave it at that.

So 65 percent of the time in the CD 7, minority candidates in the statewide elections would have received a majority, thus won that congressional district; right?

A Yeah. I agree that the language is a little bit much to parse. But that's what I mean, yes.

Q Okay. So is it fair to say that the white voting bloc here, such that there is one, isn't voting cohesively to usually defeat the minority candidate?

A Yeah. So in CD 7, 65 percent of the time, the candidate of choice for the minority voters is winning. So I mean, that's a relatively -- you know, in the scheme of things for Georgia, I think that might be the most competitive district. And so that's just what that reflects.

Q Would you say CD 7 demonstrates racially polarized voting in your analysis?

A Sorry. I just lost the place. So to go back, for CD 7, I believe I -- you know, if we go through the different elements of this, first, if I recall, minority voters had a clear candidate of choice. White voters had a different candidate of choice. And I think I -- I don't know if I used the term borderline or not. But, you know, that's one where sometimes that -- you know, sometimes bloc voting by the majority does prevent minority groups from electing their candidate of choice. Sometimes it doesn't. So I think it's kind of borderline is the way I would characterize it.

Q But given that the minority candidate wins 65 percent of the time, it's fair to say that the white

voting bloc doesn't vote usually to defeat the minority candidate; right? To me, "usually" suggests more than half the time.

A Yes. I mean, so I kind of stick to what I said in the report which I think is essentially, you know, this is a district that could perform more strongly than it does as drawn in terms of allowing minority candidates to elect their candidates of choice. But, yeah, I mean, the numbers are there. It does -- it is true that 65 percent of the time, the minority candidate of choice does win. So to me that's a borderline case.

Q Okay. And as you understand -- well, you reference sort of what you say down below that in paragraph 59 where it says "This district could perform more strongly than it does as drawn in terms of allowing minority voters to elect their candidates of choice."

As you understand Section 2 of the Voting Rights Act is the fact that the district could perform more strongly than it does as drawn indicative of a need to redraw it in order to comply with the law?

MS. BERRY: Objection. Calls for a legal conclusion.

BY MR. JACOUTOT:

Q And just to be clear, Dr. Schneer, I'm only asking it as you understand Section 2 with the knowledge that you're not an attorney.

THE WITNESS: Do I go ahead and answer?

MS. BERRY: Yes. Unless I instruct you not to.

THE WITNESS: Okay. Sorry. So repeat the question, please, one more time.

BY MR. JACOUTOT:

Q Sure. As you understand Section 2, given your work in this space, is the fact that a district could perform more strongly than it does as drawn, is that indicative to you of a need to redraw it in order to comply with Section 2?

MS. BERRY: Same objection.

THE WITNESS: So, you know, I think that the answer there is that, you know, when you're redrawing a district, it, by its very nature, means you're cutting into other districts; right? And so, you know, looking at the map -- let me take a look at the map for CD 7. Just a moment.

BY MR. JACOUTOT:

Q Yeah. And can you tell me what page you're on too?

A Yeah. Just one minute. So I'm on page 22. No. Actually, is that -- that is -- yeah. 22. Page 22.

CD 7, for example, borders Congressional Districts 9 and 10. If you look down at the performance analysis for 9 and 10 -- so now I'm going back to page 52. In 9 and 10, minority candidates elected their candidate of choice 0 percent of the time. So to the extent that you would be tweaking the lines to go into those districts where white voters did vote as a bloc and you could be in conjunction improving the, quote/unquote, performance of the CD 7, I think that that would, you know, I think it would probably meet this criteria.

Q Okay. So you're sort of saying that this is a district that, if you were to redraw the maps, that CD 7 is a district where you could possibly pull minority voters from Districts 9 and 10 and put them into CD 7 and --

A I'm not saying that exactly. I'm just saying that, by the nature of redrawing CD 7, you would be changing the boundaries of these other districts where this kind of becomes a moot question because the -- you know, because based on this performance, white voters are voting as a bloc to prevent minorities from --

like, I guess what I'm saying is we can sort of split hairs on CD 7, but it borders these districts that -- where there's not really a question about this.

Q Direct your attention to paragraph 67.

A Okay.

Q And it's referring to specific Legislative District 117. And it says "Based on historical elections, minority voters are just now beginning to be able to elect minority-preferred candidates."

Then it goes on to say "Only in the three 2021 runoff elections and the 2022 general elections did minority candidates garner more than half the vote in this district. And in no case was the margin of victory safe for the candidate of choice."

So a couple questions. We're kind of, again, flip-flopping between minority-preferred candidates and minority candidates in this paragraph as we are elsewhere. But, again, to your point, you are sort of not ascribing any additional importance or distinction between minority-preferred candidates and minority candidates in racial polarization analysis; right?

A I don't think I say that exactly. But I'm happy to proceed so we don't relitigate all of this.

Q Yeah. They're consistently sort of interchangeable in the report.

A I mean, I guess I disagree there. Like in each -- you know, so I understand how you -- it's certainly true that I mention both of these things in the same paragraph. But I don't actually -- I'm not treating them as interchangeable.

What I'm doing is to make these judgments about performance, I'm looking specifically at elections with a minority versus a nonminority candidate. And in those elections, I'm looking at the extent of -- you know, if I'm doing a racially polarized voting analysis, the extent of cohesion, or if I'm looking at the performance, you know, the ability to elect, I'm looking at those -- that subset of races and the minority-preferred candidate in those races, it is true that, in the subset of races I'm looking at, the minority-preferred candidate is the minority candidate. But I think I'm pretty careful with the language depending on what I'm doing to refer to each of those things distinctively.

Q So it references there the minority-preferred candidate success in the 2021 runoff elections and 2022 general.

Given the success of minority candidates in the runoff elections -- excuse me -- minority-preferred candidates in runoff elections of late, does that at

all signal to you that runoff elections might actually assist the minority-preferred candidate in winning the contest?

A No. I don't have any way of knowing if it, you know -- there's the time trend, right, we're in a different political context and the candidates are different. I just don't -- I wouldn't feel comfortable making a judgment about that, no.

Q Okay. And I think you might have been referring to this in one of the responses you had, and I don't want to belabor the point. But just if you could turn to paragraph 82.

A Okay.

Q In the second sentence, you say "To examine the performance of minority candidates in the illustrative maps, I examine the extent to which minority candidates have earned votes in past elections in the relevant districts."

My only question is that you did limit your analysis here to minority candidates -- right? -- not just -- not the broader category of minority-preferred candidates?

A Yeah. So in all of the -- in all the analysis where I'm looking at historical elections and seeing if white bloc voting is preventing minority

1 groups from electing their candidates of choice, the
2 past elections I'm looking at are for this definition
3 of minority versus nonminority candidates. So I'm
4 using that criteria as an assumption to -- that that --
5 excuse me. I'm using that criteria to select the
6 elections that I'm assessing that question for.
7 Q And you're using that criteria because those
8 particular elections are the most probative according
9 to some courts?
10 A Yeah. So as we discussed at the start of
11 this discussion, I'm using it. Yeah, exactly. Based
12 on that and that Georgia is a state where there
13 actually are a number of elections where this is
14 actually the case.
15 MR. JACOUTOT: Okay. I think we can go off
16 the record for 5 or 10 minutes if you guys prefer a
17 longer break. I'm just going to check my notes and
18 make sure I've got all my questions that I want to ask.
19 THE VIDEOGRAPHER: The time is 11:19 a.m.
20 We're off the record.
21 (Off the record 11:19 a.m. to 11:25 a.m.)
22 THE VIDEOGRAPHER: The time is 11:25 a.m.
23 We're on the record.
24 MR. JACOUTOT: All right. Dr. Schneer, I
25 don't have any further questions for you. Thank you

for your time. And, Ms. Berry, if you've got any cross, feel free.

THE WITNESS: Thank you.

MR. JACOUTOT: Or direct. Excuse me.

MS. BERRY: We do. Can we -- sorry. Can we take about few minutes?

MR. JACOUTOT: Sure.

THE VIDEOGRAPHER: The time is 11:25 a.m. We're off the record.

(Off the record 11:25 a.m. to 11:36 a.m.)

THE VIDEOGRAPHER: The time is 11:36 a.m. We're on the record.

EXAMINATION

BY MR. ROLLINS-BOYD:

Q Hi, Dr. Schneer. I just have a few questions that I want to walk through with you based on your testimony today so far. Earlier in your deposition with Mr. Jacoutot, you were describing your assumption that -- you described the assumption you relied upon in your analysis that elections involving minorities and nonminorities were the most probative. Do you recall that discussion?

A Yes.

MR. JACOUTOT: I'm sorry to interrupt your line of questions Mr. Rollins-Boyd. Quick question. I

1 think you said this at the beginning of the depo, but
2 who are you representing?
3 MR. ROLLINS-BOYD: Marlin David Rollins-Boyd
4 for Lawyers' Committee for Civil Rights. And I
5 represent the Georgia NAACP plaintiff group in this
6 case.
7 MR. JACOUTOT: Okay. Thank you. Sorry about
8 that.
9 BY MR. ROLLINS-BOYD:
10 Q So the question was do you recall your
11 discussion with Mr. Jacoutot regarding your assumption
12 that elections involving minorities and nonminorities
13 were the most probative?
14 A Yes.
15 Q And that was based on your understanding of
16 some -- a case from the ninth circuit?
17 A Yes.
18 Q You're not a lawyer; correct?
19 A I am not.
20 Q And you're not offering an opinion in the
21 case today or in your report that that standard is
22 relevant for our current case here in Georgia?
23 A No. I'm not offering an opinion.
24 Q And I think you testified that the reason --
25 the basis for your assumption was that it provided a

stricter standard for evaluating RPV.

Do you recall that?

A Yes.

Q What did you mean by that?

A Well, if I'm -- what I mean by that is I'm looking at a subset of a particular type of election. And so, for example, in some states, there are no elections whatsoever between a minority candidate and a nonminority candidate. And if you think that the opinion -- that that, you know, such elections are most probative, then you wouldn't be able to make an assessment using the most probative elections.

And Georgia is a state where there are many elections between a minority and a nonminority candidate. And so we have the ability of meeting that standard of being able to look at these elections that this ninth circuit court has said were less probative.

Q And under that kind of strict standard, were you able to determine if there was racially polarized voting in the areas you looked at in Georgia?

A Yes, I was.

Q And I think you mentioned that there was a lesser standard you could have also used? Do you have that in mind?

A Yeah. I mean, I could have just -- I could

have looked at my analysis -- or I could have looked just across all elections, yes.

Q And in looking -- did you look at all general elections statewide in Georgia?

A Yes, I did. Yes. The answer is yes.

Q And under that analysis, were you able to determine if there was RPV in the areas you looked at in Georgia?

A Yes, I was.

Q All right. I want to move on a little bit. During your deposition, you discussed briefly or you were describing your performance analysis. I just want to clarify a few points. Can you explain how your performance analysis in your report relates to the third Gingles precondition?

A Yes. Specifically the performance analysis in the report is trying to determine if white bloc voting is preventing minority candidates voters from electing their candidates of choice. And to do that, I look at past elections and look at the share of the time that the minority-preferred candidate was elected. I look at the average vote share for the minority-preferred candidate. I look at the number of times where the -- it was sort of a safer win over this 55 percent, two-party vote share threshold.

Q So to be clear, did you undertake that kind of analysis you just described in your report for each of the districts relevant to the new majority minority districts that Dr. Duchin laid out in her report?

A So in reviewing her report, there was one additional district that I noticed that I did not include in my report. That was an oversight on my part. Specifically, Legislative District 144, the enacted Legislative District 144. And so because I had omitted that, I have gone back and looked at what I term the performance of Legislative District 144. And I found that in no past elections were minority voters able to elect their candidate of choice. So essentially running the exact same type of performance analysis that I did for all other districts, this was a district where in no past elections that I examined were minority voters able to elect their candidates of choice.

I'm sorry. One more point. And so, you know, based on that performance analysis, the white bloc voting in LD 144 in my judgment prevented minority voters from electing their candidates of choice.

MR. ROLLINS-BOYD: Thank you. I have no further questions.

MR. JACOUTOT: Sorry, y'all. I thought I was

off mute. I wasn't. I thought you guys were ignoring me for a little while. I'm just going to object to that question as outside of the scope of the report. I have no way of validating or, you know, crossing him on the data discussed there because it wasn't discussed in his report. But that's all.

THE VIDEOGRAPHER: Any other questions, Counsel?

MR. ROLLINS-BOYD: No.

THE VIDEOGRAPHER: Okay. This concludes today's deposition. The time is 11:42 a.m. And we're off the video record.

MR. JACOUTOT: The only thing I would want is a rush transcript.

THE COURT REPORTER: When would you like it?

MR. JACOUTOT: By, let's say, next week. Maybe Tuesday next week?

THE COURT REPORTER: Tuesday next week. I can work that out.

MR. ROLLINS-BOYD: Can we also get a rough, please?

(Signature reserved.)

(Deposition concluded 11:43 a.m.)

CERTIFICATE OF REPORTER

STATE OF NORTH CAROLINA)
COUNTY OF MECKLENBURG)

I, MEREDITH R. SCHRAMEK, hereby certify that the witness whose testimony appears in the foregoing deposition was duly sworn by me; that the testimony of said witness was taken by me to the best of my ability and thereafter reduced to typewriting under my direction; that I am neither counsel for, related to, nor employed by any of the parties to the action in which this deposition was taken; and, further, that I am not a relative or employee of any attorney or counsel employed by the parties thereto, nor financially or otherwise interested in the outcome of the action.

I further certify that I have no direct contract with any party in this action, and my compensation is based solely on the terms of my subcontractor agreement.

Nothing in the arrangements made for this proceeding impacts my absolute commitment to serve all parties as an impartial officer of the court.

This, the 20th day of March, 2023.

MEREDITH R. SCHRAMEK, RPR, CCR 3040

CRINESHA BERRY, ESQ.
amellman@crowell.com

March 20, 2023
Georgia State Conference of the NAACP vs State of Georgia
March 14, 2023 - Benjamin Schneer

The above-referenced transcript is available for review.

(The witness/You) should read the testimony to verify its accuracy. If there are any changes, (the witness/you) should note those with the reason on the attached Errata Sheet.

(The witness/You) should, please, date and sign the Errata Sheet and email to the deposing attorney as well as to Veritext at litsup-ga@veritext.com and copies will be emailed to all ordering parties.

It is suggested that the completed errata be returned 30 days from receipt of testimony, as considered reasonable under Federal rules*, however, there is no Florida statute to this regard.

If the witness fails to do so, the transcript may be used as if signed.

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*Federal Civil Procedure Rule 30(e)/Florida Civil Procedure Rule 1.310(e).

Georgia State Conference of the NAACP vs State of Georgia
March 14, 2023 - Benjamin Schneer

E R R A T A S H E E T

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Under penalties of perjury, I declare that I have read the foregoing document and that the facts stated in it are true.

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(WITNESS NAME) DATE

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Georgia Code

Title 9, Chapter 11

Article 5, Section 9-11-30

(e) Review by witness; changes; signing.

If requested by the deponent or a party before completion of the deposition, the deponent shall have 30 days after being notified by the officer that the transcript or recording is available in which to review the transcript or recording and, if there are changes in form or substance, to sign a statement reciting such changes and the reasons given by the deponent for making them. The officer shall indicate in the certificate prescribed by paragraph (1) of subsection (f) of this Code section whether any review was requested and, if so, shall append any changes made by the deponent during the period allowed. If the deposition is not reviewed and signed by the witness within 30 days of its submission to him or her, the officer shall sign it and state on the record that the deposition was not reviewed and signed by the deponent within 30 days. The deposition may then be used as fully as though signed unless, on a motion to suppress under paragraph (4) of subsection (d) of Code

Section 9-11-32, the court holds that the reasons given for the refusal to sign require rejection of the deposition in whole or in part.

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Exhibit
0001

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF GEORGIA
ATLANTA DIVISION

GEORGIA STATE CONFERENCE OF THE NAACP, et al. *Plaintiffs*, v. STATE OF GEORGIA, et al. *Defendants.*	)	Case No. 1:21-CV-5338-ELB-SCJ-SDG
COMMON CAUSE, et al., *Plaintiffs*, v. BRAD RAFFENSPERGER *Defendant.*	)	Case No. 1:22-CV-00090-ELB-SCJ-SDG

DEFENDANTS' NOTICE TO TAKE THE EXPERT DEPOSITION OF BENJAMIN SCHNEER, Ph.D.

PLEASE TAKE NOTICE that, pursuant to Rules 26 and 30 of the Federal Rules of Civil Procedure, counsel for Defendants the State of Georgia, Governor Brian Kemp, and Brad Raffensperger, in his official capacity as Secretary of State of Georgia, will take the oral examination of Plaintiffs' expert, Benjamin Schneer, Ph.D. on Tuesday, March 14, 2023, beginning at

9:30 a.m. via Zoom videoconferencing through Veritext Legal Solutions and continuing thereafter until completed. Details regarding the videoconferencing will be emailed to those participating once all arrangements are finalized.

The deposition shall be taken before a Notary Public or some other officer authorized by law to administer oaths for use at trial. The deposition will be taken by oral examination with a written and/or sound and visual record made thereof (*e.g.*, videotape, LiveNote, etc.). The deposition will be taken for the purposes of cross-examination, discovery, and for all other purposes permitted under the Federal Rules of Civil Procedure or any other applicable law.

This 8th day of March, 2023.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on March 8, 2023, I caused a copy of the foregoing to be served by electronic mail on all counsel of record.

/s/ Bryan P. Tyson
Bryan P. Tyson

Attorney for Defendants

IN THE UNITED STATES DISTRICT COURT FOR THE NORTHERN DISTRICT OF GEORGIA ATLANTA DIVISION

GEORGIA STATE CONFERENCE OF THE NAACP, et al. *Plaintiffs*, v. STATE OF GEORGIA, et al. *Defendants.*	Case No. 1:21-CV-5338-ELB-SCJ-SDG
COMMON CAUSE, et al., *Plaintiffs*, v. BRAD RAFFENSPERGER *Defendant*.	Case No. 1:22-CV-00090-ELB-SCJ-SDG

Served on behalf of the Georgia State Conf. of the NAACP Plaintiffs

Expert Report of Dr. Benjamin Schneer

Exhibit
0002

Racially Polarized Voting Analysis: Georgia

Benjamin Schneer

January 13, 2023

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Introduction

1. My name is Benjamin Schneer and I am an Assistant Professor of Public Policy at the Harvard Kennedy School. I joined Harvard's faculty in 2018, after working for two years as an Assistant Professor of Political Science at Florida State University. In 2016 I completed my Ph.D in Political Science in the Department of Government at Harvard University, where my dissertation won the Richard J. Hernstein Prize. At the Harvard Kennedy School, I teach a course on Empirical Methods and a course on Data Science for Politics.

2. My research is focused on American politics, particularly elections, political representation, and redistricting. I have published research articles in several leading peer-reviewed academic journals including *Science*, *American Journal of Political Science*, *Journal of Politics*, *Quarterly Journal of Political Science*, *Political Behavior*, *Studies in American Political Development*, and *Legislative Studies Quarterly*. My work received the annual Best Paper Award from the *American Journal of Political Science* in 2018, and other research of mine has received media coverage in outlets including *The New York Times*, *The Washington Post*, *The Los Angeles Times*, and *The Economist*.

3. I have worked as a consultant on several matters related to voting rights and redistricting. I co-authored, along with Professor Gary King, the analyses of the Arizona Independent Redistricing Commission Congressional and Legislative District maps submitted on behalf of the commission to the Department of Justice in 2012 – resulting in maps that were pre-cleared on the first attempt

for the first time in Arizona's history. I also have worked as a consultant on the Racially Polarized Voting Analysis prepared for the Virginia Redistricting Commission in 2021.

4. I have been retained to analyze the extent of legally significant racially polarized voting in Georgia's congressional, State Senate and State House district maps passed by the General Assembly in the 2021 redistricting cycle. In this report, I estimate voting behavior in these districts, examine the extent of racially polarized voting, and make an assessment of the performance of these districts in terms of the ability of minority groups to elect their candidates of choice. Then, I consider new illustrative districts proposed by the plaintiffs, again examining the extent of racially polarized voting and the ability of minority groups to elect their candidates of choice in the illustrative districts.

Executive Summary

5. Based on my analysis, I find that there is evidence of racially polarized voting in Georgia overall as well as for specific congressional districts (CDs), state Senate districts (SDs), and state House districts (LDs). Black and Hispanic voters tend to vote cohesively and White voters tend to oppose them. I have primarily analyzed racially polarized voting between Black and White voters; in a handful of districts identified by the plaintiffs, I have analyzed racially polarized voting between Black and Hispanic voters on the one hand and White voters on the other hand.

6. Based on my analysis, I view the voter behavior that I have examined

in the state of Georgia to be consistent with racially polarized voting between minority and majority racial groups in (1) all enacted CDs other than CD 5, (2) in all Illustrative Map CDs other than CD 4, (3) in enacted SDs 6, 9, 16, 17, 22, 23, 25, 26, 28, 34, 35, 38, 40, 43, 44, and 55, (4) in all Illustrative Map SDs I analyze (with the possible exception of Illustrative Map 1 SD 40, which is borderline), (5) in enacted LDs 61, 65, 74, 78, 115, 116, 117, 142, 143, 151, 154, 161, 163, 165 and 171, (6) and in all Illustrative Map LDs I analyze.

7. In terms of minority groups' ability to elect their candidates of choice in the enacted congressional, state Senate and state House districts that I examine, revised maps could clearly result in greater minority representation. Furthermore, some districts with meaningful minority population levels nonetheless offer minority groups a limited ability to elect their candidates of choice based on past elections.

8. The Illustrative Maps drawn by the plaintiffs' map-drawing expert Moon Duchin offer an increased ability to elect the minority-preferred candidates in the districts I have been asked to examine. When looking across statewide elections since 2012 where minority candidates ran against non-minority candidates, in the Illustrative Congressional District Map minority candidates won these elections more than half the time in 6 of the 14 districts (43%); this contrasts with the enacted Congressional District Map, where minority candidates won more than half the time in such elections in 5 of the 14 districts (36%). In the Illustrative State Senate Maps, minority candidates won more than half the time in such elections in 5 of the 5 districts that I examined in Illustrative

Map 1 (100%) and in 2 of the 2 districts that I examined in Illustrative Map 2 (100%). This performance contrasts with the enacted Senate Districts I have examined, where minority candidates won more than half the time in 67% of districts. The Illustrative Maps for the State House outperform the enacted map in terms of ability to elect minority candidates as well.

Methodological Approach

Identifying Racially Polarized Voting

9. Racially polarized voting (RPV) occurs when the majority group and a minority racial group vote differently. To identify instances of RPV in Georgia, I examine (1) whether members of a minority group of interest appear to be *cohesive* in their electoral support for a candidate of choice (Specifically, does more than half of a given minority group support the same candidate?); and, (2) whether White voters oppose this candidate (Specifically, do more than half of White voters oppose the minority candidate of choice?).[1]

10. To make these determinations, I analyze historical voting behavior from Georgia elections since 2012. The Georgia Secretary of State tracks turnout data by racial group in each precinct, along with aggregate vote totals for each candidate in each precinct. While elections from 2012 to 2021 were conducted

[1]For a detailed discussion of cohesion, see Bernard Grofman, Lisa Handley, and Richard G. Niemi, Minority representation and the quest for voting equality, Cambridge University Press, 1992. The authors note that courts have concluded that cohesiveness "is to be measured with reference to voting patterns" (p. 68), and that "minority groups are politically cohesive if they vote together for minority candidates" (p. 73).

under the previous district maps, I focus primarily on elections for which changes in district lines are unlikely to affect vote choice. Specifically, I use historical national and state-wide elections to evaluate congressional, state House and state Senate districts. I discuss in more detail the specific elections I have selected to study, and the rationale for my choices, in the next section.

11. Because elections are conducted under a secret ballot, it is not possible to tally vote choice directly for each racial group in order to assess voter behavior in each enacted district. Instead, I estimate racial-group-level vote totals based on the precinct-level election data, producing estimates for each racial group's vote share in support of each candidate.[2]

12. To do this, I employ a standard approach in the political science literature and in redistricting litigation when one must estimate the voting behavior of specific racial groups based on aggregate vote totals: ecological inference (EI).[3] Ecological inference makes use of (1) the statistical information captured by how strongly a candidate's level of support varies in tandem with variation in each racial group's population share across precincts, and (2) deterministic information captured in precincts that consist primarily of one racial group. For example, if a precinct is relatively homogeneous, one can place bounds on the range of possible voting behaviors for a racial group in that precinct, with the

[2]On the value of both statewide elections and precinct-level data, see Gary King, A Solution to the Ecological Inference Problem: Reconstructing Individual Behavior from Aggregate Data, Princeton University Press, 1997. King writes: "For electoral applications, choosing data in which all geographic units have the same candidates (such as precincts from the same district or counties form the same statewide election) is advisable so that election effects are controlled" (p. 28).

[3]King, 1997.

most extreme version of this occurring when a precinct is entirely homogeneous.[4] The key advantage of EI is that it combines both the statistical and deterministic information I have just described. Technical summaries of the EI approach can be found in a variety of sources, including King, Rosen and Tanner (2004).[5] In this report, I use the RxC method of ecological inference, allowing me to identify voting patterns across all the primary racial groups in Georgia at once. This approach is based upon the hierarchical model described in Rosen, Jiang, King and Tanner (2001),[6] and the draws from this model's posterior distribution are obtained using a Metropolis-within-Gibbs sampling algorithm.[7] Previous research comparing approaches including ecological regression, 2x2 ecological inference and the Rosen et al. (2001) method has found that these approaches tend to yield similar results, with Rosen et al. (2001) having a slight edge in instances with more than two racial groups.[8] Additionally, a variety of published research and legal cases have made use of this method.[9]

[4]Otis Dudley Duncan and Beverly Davis, "An alternative to ecological correlation," *American Sociological Review* (1953).

[5]Gary King, Ori Rosen, and Martin A. Tanner, "Information in ecological inference: An introduction," In *Ecological Inference: New Methodological Strategies*, pp. 1-12, Cambridge University Press, 2004.

[6]Ori Rosen, Wenxin Jiang, Gary King, and Martin A. Tanner, "Bayesian and frequentist inference for ecological inference: The R× C case," *Statistica Neerlandica* 55, no. 2 (2001): 134-156.

[7]Olivia Lau, Ryan T. Moore, and Michael Kellermann, "eiPack: R× C ecological inference and higher-dimension data management," *New Functions for Multivariate Analysis* 7, no. 1 (2007): 43, Available at https://cran.r-project.org/web/packages/eiPack/index.html.

[8]Justin de Benedictis-Kessner, "Evidence in voting rights act litigation: Producing accurate estimates of racial voting patterns," *Election Law Journal* 14, no. 4 (2015): 361-381.

[9]Research articles making use of this approach include: Michael C. Herron and Jasjeet S. Sekhon, "Black candidates and black voters: Assessing the impact of candidate race on uncounted vote rates," *The Journal of Politics* 67, no. 1 (2005): 154-177. Matt Barreto, Loren Collingwood, Sergio Garcia-Rios, and Kassra AR Oskooii. "Estimating candidate support in Voting Rights Act cases: Comparing iterative EI and EI-R×C methods." *Sociological Methods & Research* 51, no. 1 (2022): 271-304. Legal cases where experts have presented opinions

Measuring District Performance

13. I also examine the performance of the districts being challenged along with newly proposed districts to assess if they allow minority groups to elect candidates of choice. I again use historical elections re-aggregated to the new districts to make this assessment, and I focus on several related questions: (1) What is the minority share of the electorate in the newly enacted districts? (2) In what share of past elections would the minority candidate of choice have won in these historical elections? (3) Given the results for the previous two questions, does the district as drawn constitute sufficient minority voting strength for minority voters to elect candidates of choice?[10]

Data Sources

14. To perform the analyses in this report, I rely on elections data from the Georgia Secretary of State's office and the Georgia General Assembly's Legislative and Congressional Reapportionment Office. Georgia, unlike many other states, records turnout data by race for all elections. As a result, there is no uncertainty about the turnout of different racial groups in Georgia and ecological inference analysis only needs to be used to determine voter preferences by race.

making use of RxC ecological inference include: *League of Women Voters of Ohio, et al. v. Ohio Redistricting Commission*, *Caster v. Merrill*, *Milligan v. Merrill*, and previous filings in this case among others.

[10]See Grofman, Handley and Niemi, 1992. They write: "What is clearly established by *Gingles* is that white bloc voting is legally significant, regardless of the actual percentages of whites voting against minority-preferred candidates, when it usually results in the defeat of the minority-preferred candidates" (p. 73).

15. The state has produced reapportionment reports that contained precinct-level voter registration and turnout by race[11] along with precinct-level vote totals for all general elections between 2014 and 2020. I also requested the data from the 2012 reapportionment report but the state did not provide it; as a result, I instead used 2012 reapportionment report data that I received directly from the Lawyers' Committee for Civil Rights. For the 2022 election, I received data on turnout from the Secretary of State's office but I did not receive precinct-level election totals. As a result, I again used data received from the Lawyers' Committee for Civil Rights.[12]

16. To analyze the 2018 and 2021 runoff elections, I used data compiled by the Voting and Election Science Team (VEST).[13] These files include precinct-level general election results and turnout data.

Maps

17. To use past election data to understand potential voter behavior in newly-drawn districts, I assign precincts to the enacted congressional and legislative

[11]Georgia includes the following options for voters to select as their race and/or ethnicity: American Indian, Asian/Pacific Islander, Black, Hispanic/Latino, Other, and White. For the purposes of this report, I focus on the behavior of Black, Hispanic/Latino, and White voters and I combine all other categories into the Other category. When analyzing RPV between Black, Hispanic and White voters I estimate vote shares for each of these four categories but only report the Black, Hispanic and White vote shares. When analyzing RPV between Black and White voters only I include Hispanic voters in the Other category.

[12]The precinct-level election results for the 2022 data were downloaded from the Secretary of State's website at https://sos.ga.gov/index.php/elections/federalgeneral_election_runoff_turnout_by_demographics_january_2021 and compiled by the Lawyer's Committee for Civil Rights.

[13]Voting and Election Science Team. "2020 Precinct-Level Election Results", Harvard Dataverse V29, 2020, https://doi.org/10.7910/DVN/K7760H.

district boundaries as well as the illustrative boundaries. In order to accomplish this, I downloaded GIS shape files from the Legislative and Congressional Reapportionment Office page on the Georgia General Assembly website.[14] These included shape files for the passed map of congressional districts, the passed map of state House districts, the passed map of state Senate districts, and precinct shape files for 2012, 2014, 2016, 2018 and 2020. For 2022, I used precinct shape files provided to me by the Lawyers Committee for Civil Rights. For the illustrative maps presented by the plaintiffs, I received data assigning each census block in the state to a district, which I converted into district-level shape files. I then spatially joined precincts for each election year to the enacted and illustrative districts.[15] In practice, the spatial join amounts to finding which precincts are contained within congressional, state Senate and state House districts and then assigning them to the new districts.

Elections

18. I estimate EI models using statewide general elections occurring between 2012 and 2022.[16] These consist of: US Presidential Elections in 2012, 2016

[14] Available at https://www.legis.ga.gov/joint-office/reapportionment.

[15] Specifically, the join is based on a point within the interior of the precinct boundaries and towards the middle of the precinct. I do not use the centroid of the precinct because a centroid can be located outside the boundary of a precinct for non-convex precinct shapes. Split precincts occur rarely; in 2022, for example, 1.18% of precincts in congressional districts, 1.22% of precincts in state Senate districts, and 5.83% of precincts in state House districts were split such that more than 5% of their area was contained in multiple districts.

[16] I omit any elections without a candidate from each of the major political parties as well as the 2020 US Senate special election. This election occurred between multiple candidates of different parties, including Raphael Warnock (D), Kelly Loeffler (R), Doug Collins (R), Deborah Jackson (D) and Matt Lieberman (D). This election is qualitatively different from the others as it presents an expanded choice set of candidates, multiple minority candidates, and no candidate

and 2020; US Senatorial Elections in 2014, 2016, 2020, 2021 (Runoff), and 2022 (General and Runoff); State Gubernatorial Elections in 2014, 2018 and 2022; State Lieutenant Governor Elections in 2014, 2018 and 2022; Secretary of State Elections in 2014, 2018 (General and Runoff) and 2022; State Agriculture Commissioner Elections in 2014, 2018 and 2022, State Attorney General Elections in 2014, 2018 and 2022; State Insurance Commissioner Elections in 2014, 2018 and 2022; State Labor Commissioner Elections in 2014, 2018 and 2022; State Superintendent of Public Instruction Elections in 2014, 2018 and 2022; and, State Public Service Commissioner Elections in 2014, 2018 (General and Runoff), 2020 and 2021 (Runoff).

20. When studying the extent of legally significant racially polarized voting in general elections, I estimate ecological inference results for general elections but not for primaries. Primary elections can be of use in an RPV analysis, but in my view studying them is not necessary or sufficient for drawing conclusions about racially polarized voting in Georgia general elections. For example, if racially polarized voting occurs in a Georgia primary election it does not necessarily imply that racially polarized voting will occur in the general election, and vice versa. The primary electorate is often considerably different than the electorate in a general election. Indeed, political science research has found "consistent support for the argument that primary and general electorates diverge in their policy ideology."[17] Thus, in my judgment, it is sufficient in this case to examine

receiving a majority of votes. Due to these factors, the election poses a less clear test of racially polarized voting, and I do not attempt to draw any conclusions from it at the statewide level or in my subsequent analysis of voting behavior within specific districts.

[17]See Seth J. Hill, "Institution of nomination and the policy ideology of primary electorates,"

behavior in general elections in order to determine the extent of racially polarized voting in Georgia general elections.

21. While I estimate RPV results for all statewide general elections since 2012, I rely on those elections in which a minority candidate was one of the two major party candidates running for office as most probative for making inferences about racially polarized voting.[18] In Georgia between 2012 and 2022, among the statewide elections that I examine, a minority candidate ran against a non-minority candidate in the following instances:

- 2012 Presidential Election, Barack Obama (D)
- 2014 Insurance Commissioner Election, Liz Johnson (D)
- 2014 Labor Commissioner Election, Robbin Shipp (D)
- 2014 Lt. Governor Election, Connie Stokes (D)
- 2014 Secretary of State Election, Doreen Carter (D)
- 2014 Superintendent of Public Instruction, Valarie Wilson (D)
- 2014 Public Service Commissioner 4 Election, Daniel Blackman (D)
- 2018 Gubernatorial Election, Stacey Abrams (D)
- 2018 Insurance Commissioner Election, Janice Laws Robinson (D)
- 2018 Superintendent of Public Instruction Election, Otha Thornton (D)
- 2020 Public Service Commissioner 1 Election, Robert Bryant (D)

Quarterly Journal of Political Science 10, no. 4 (2015), p. 480.

[18]An election between a minority and a non-minority candidate provides variation in the race of the candidate and therefore offers a test of whether race might matter in vote choice among different voter groups. Some past cases have also placed more weight on elections between a minority and non-minority candidate: "Elections between white and minority candidates are the most probative in determining the existence of legally significant white bloc voting." See *Old Person v. Cooney*, 230 F.3d 1113, 112324 (9th Cir. 2000).

- 2020 Public Service Commissioner 4 Election, Daniel Blackman (D)
- 2020 US Senator Special Election, Raphael Warnock (D)
- 2021 Public Service Commissioner 4 Runoff, Daniel Blackman (D)
- 2021 US Senator Special Election Runoff, Raphael Warnock (D)
- 2022 Gubernatorial Election, Stacey Abrams (D)
- 2022 Secretary of State Election, Bee Nguyen (D)
- 2022 Agriculture Commissioner Election, Nakita Hemingway (D)
- 2022 Insurance Commissioner Election, Janice Laws Robinson (D)
- 2022 Labor Commissioner Election, William Boddie (D)
- 2022 Superintendent of Public Instruction Election, Alisha Searcy (D)

22. In addition to these elections, I also include elections in which no minority candidate ran or two minority candidates ran as major party candidates. These are useful for establishing a general pattern of vote choice for different racial groups, even if elections with a single minority candidate are most probative for determining the extent of RPV. In all of my subsequent RPV analysis, I examine the vote shares cast in support of the statewide minority-preferred candidate for a given election. I define the statewide minority-preferred candidate as the candidate who garnered the majority of votes cast by minority voters according to statewide EI estimates.[19]

[19]Note that for any given election it must still be determined whether the statewide minority-preferred candidate is supported cohesively by the minority groups considered in this report. But, whether or not this occurs, by definition there will always be one candidate who received a majority of votes cast by minority voters.

EI Analysis of Enacted Districts

Statewide

23. I begin by analyzing the extent of RPV that has occurred overall in historical statewide elections. At the state level, elections in Georgia exhibit an unambiguous and consistent pattern of racially polarized voting. I make this determination by examining the vote choices of racial groups across past elections.

24. Figure 1 plots the EI estimates for the set of statewide elections under consideration, which were held from 2012 to 2022. The labels on the left side of the plot indicate the specific elections considered. Elections for which one minority candidate ran against a non-minority candidate are indicated with a star. In the plot, the point estimates illustrating the level of support for a candidate are marked with a circle. In this and in all subsequent analyses, these circles represent my estimate of two-party vote share for the minority-preferred candidate (e.g., the votes cast for the preferred major party candidate divided by the sum of the votes cast for the candidates of both major parties) for a given election. The point estimates can be understood in this context as the vote shares that were most likely to have generated the pattern of data (e.g., votes cast for candidates and turnout among different racial groups) that occurred across precincts in a given election. Additionally, the horizontal lines emanating from either side of the circles indicate the bounds of the 95% confidence intervals. The 95% intervals reflect the uncertainty of each estimate; specifically, for the

EI model, they mark the interval for which there is a 95% probability that the true vote share is contained within the lower and upper bounds.[20] In instances where no confidence interval is visible, the intervals are narrow and not visible to the eye (though they still exist).

25. I will explain and interpret these plots in two steps.[21] First, the points clustered on the right side of the plot indicate large majorities of Black and Hispanic voters all supported minority candidates in each election in which they ran between 2012 and 2022 and were opposed by non-minority candidates. In elections without a minority candidate, these voters still acted cohesively to support other minority-preferred candidates.[22]

26. For example, in the 2018 gubernatorial election, I estimate that about 99% of Black voters supported Stacey Abrams, a minority candidate. This overwhelming level of support among Black voters for minority candidates running against non-minority candidates is similar across all other elections as well, including for Barack Obama in 2012 (98%), Connie Stokes in 2014 (98%), Doreen Carter in 2014 (98%), Otha Thornton in 2018 (99%) and Raphael Warnock in 2021 (99%).

[20]See Guido W. Imbens, "Statistical significance, p-values, and the reporting of uncertainty," *Journal of Economic Perspectives* 35, no. 3 (2021): 157-74. Also see Andrew Gelman, John B. Carlin, Hal S. Stern, and Donald B. Rubin, *Bayesian data analysis*, Chapman and Hall/CRC, 1995. Note that this interpretation of a 95% interval is in subtle contrast with a non-Bayesian or frequentist interpretation of the confidence intervals, which is that if this estimation were repeated for numerous iterations of a given election, the calculated 95% confidence intervals would contain the true value of a racial group's vote share 95% of the time.

[21]I have included with this report a digital Supplementary Appendix file recording individual estimates and confidence intervals for each election studied in a plot.

[22]Table 10 in the Appendix reports the full list of statewide minority-preferred candidates based on my estimates.

27. I estimate that about 96% of Hispanic voters supported Abrams in 2018. Again, the results are generally similar across other elections I examined with minority candidates. When a minority candidate was not one of the two major party candidates, minority voters continued to vote cohesively, supporting particular candidates at overwhelming rates. Overall, then, I conclude that Black and Hispanic voters' past behavior in statewide elections reveals that these groups had a clear *candidate of choice* in each election, with large majorities of these voters supporting the same candidate in each election and voting cohesively. And, in particular, when a minority candidate ran against a non-minority candidate in a general election, a clear majority of each racial minority group voted for the minority candidate.

28. Second, I study voting patterns of White voters. As an example, I estimate that in 2018 15% of White voters supported Abrams. Similarly, across all historical statewide elections between 2012 and 2022, considerably less than half of White voters supported minority candidates (when running against non-minority candidates). A majority of White voters voted against the candidate of choice of minority voters. With this information in mind, my assessment is that these historical elections exhibit clear evidence of racially polarized voting at the statewide level. Hispanic and Black voters cohere around the same candidates of choice, and White voters oppose them, consistent with RPV. Thus, any new districts proposed as a remedy would be drawing from a state where there is evidence of racially polarized voting affecting the minority groups considered in this report.

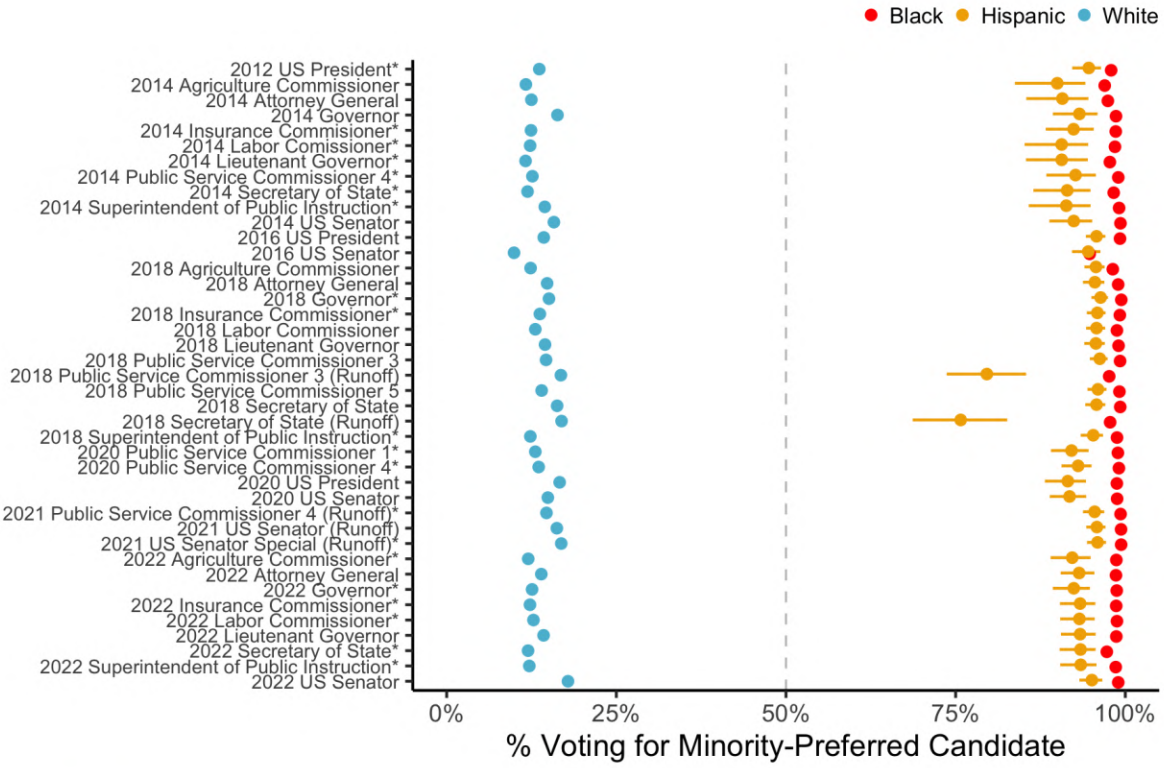

Figure 1: Ecological Inference Results — Statewide (Historical Elections, Two-Party Vote Shares), 3 Racial Groups

Congressional Districts

29. I have been asked to examine RPV between Black and White voters in all enacted congressional districts in the state. Figure 2 illustrates the boundaries of the state's congressional districts.

30. Table 1 records the share of the electorate comprised by each racial group in each congressional district. These estimates are based on averaging across the 2020 and 2022 turnout figures. Minority groups constitute a majority of the electorate in CDs 4, 5, 7 and 13 based on the turnout numbers from 2020 and 2022.

31. Figures 3 through 7 present the EI results for individual congressional districts. As before, the point estimate for a racial group's vote share in a given election is represented with a dot and the uncertainty in the estimate is reflected in the 95% confidence intervals that emanate from the point estimate.

32. For most districts, the analysis of RPV between White and Black voters is very straightforward. In CDs 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13 and 14, Black voters supported, by an overwhelming margin, the minority candidate in all historical elections in which they ran. When a minority candidate did not run or when multiple minority candidates ran, Black voters supported the statewide minority-preferred candidates in these districts: the confidence intervals never overlap with the threshold for majority support (e.g., 50%). White voters opposed the candidate of choice of Black voters in every historical election. Again, the confidence intervals on the estimates for White voters never

overlap with the the threshold for majority support.

33. For example, CD 3 demonstrates clear evidence of RPV between White and Black voters for all elections that I examine. For Black voters, I never estimate a minority-preferred candidate vote share below 92.8%. For White voters, I never estimate a minority-preferred candidate vote share above 12.2%.

34. As another example, CD 7 presents another strong example among the congressional districts of RPV, with Black voters cohering around minority candidates (and other minority-preferred candidates) and with White voters opposing these candidates of choice. In every election with a minority candidate running against a non-minority candidate, minority voters supported the minority candidate, often overwhelmingly. For example, in the 2018 Gubernatorial race, I estimate that 97% of Black voters supported Abrams. In contrast, 19% of White voters in the district supported Abrams according to my estimates. None of the confidence intervals overlapped with the threshold for majority support in this election. The same pattern generally holds in earlier election years where minority candidates ran. In my view, this pattern constitutes clear evidence of RPV.

35. CD 4 exhibits evidence of RPV between White and Black voters as well. In more recent elections a majority of White voters occasionally voted along with minority racial groups; however, this did not occur for any elections in which a minority candidate ran against a non-minority candidate. Two of the four instances where this occurred were lower salience elections, such as the 2018 Runoffs for Secretary of State and for Public Service Commissioner.

Overall, CD 4 suggests to me cohesive behavior across Black voters in support of minority candidates (and other minority-preferred candidates). White voters have reliably opposed the minority candidates of choice.

36. Unlike all other congressional districts in the state, CD 5 does not exhibit evidence of racially polarized voting. White voters in the district tended across a majority of elections to support the same candidate as minority voters. Based on my analysis, Black voters supported minority candidates in all historical elections, but White voters opposed this candidate of choice in only 15% of these elections.

37. To sum up, I observe RPV between Black voters on the one hand and White voters on the other hand when pooling across all CDs (e.g., statewide) as well as specifically for all CDs other than CD 5. In each of these congressional districts, when I focus specifically on elections with one minority candidate, Black voters supported that candidate and were opposed by White voters every time since 2012.

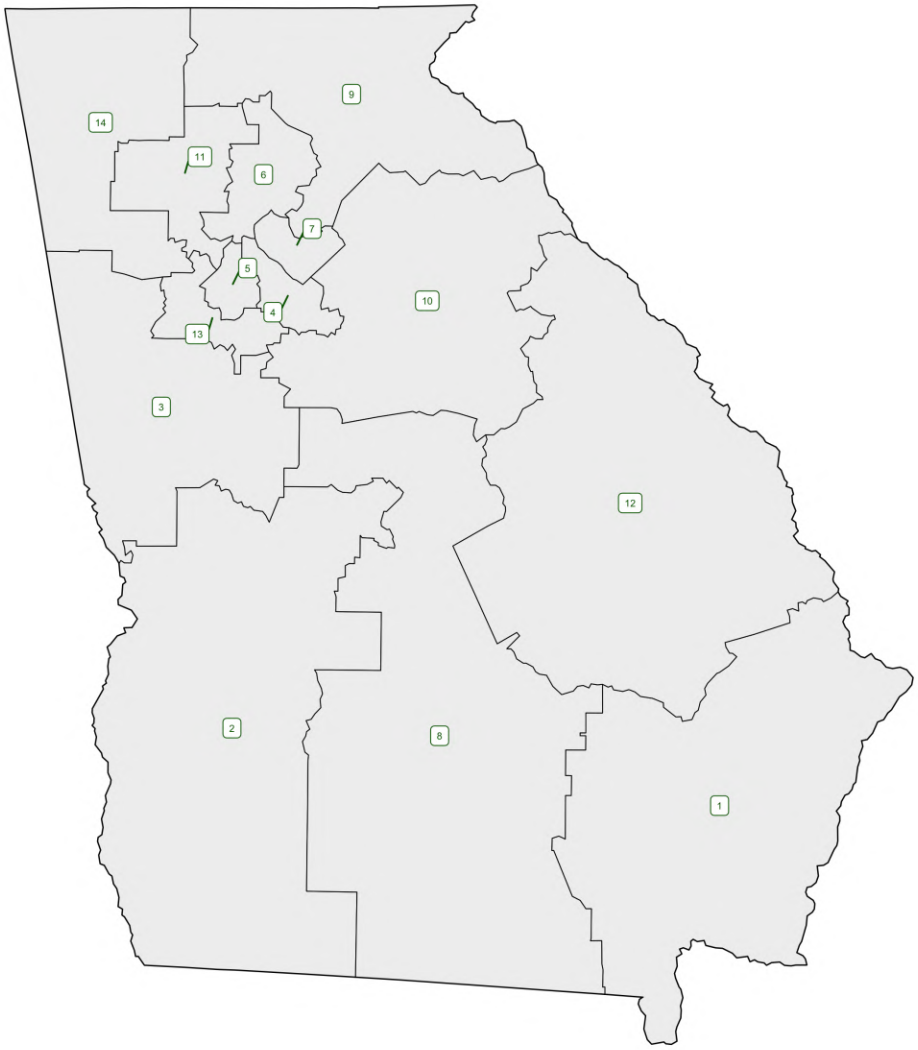

Figure 2: Map of Enacted Congressional Districts

Table 1: Percentage of Electorate by Race, Average of 2020 and 2022 Elections, Enacted CDs

CD	Black	Hispanic	White	Other
1	23.9%	1.8%	64.8%	9.5%
2	40.7%	1.1%	51.9%	6.3%
3	21.0%	1.8%	67.5%	9.7%
4	48.8%	2.3%	35.9%	12.9%
5	39.3%	2.3%	44.1%	14.2%
6	7.2%	3.3%	70.2%	19.2%
7	28.3%	6.5%	43.6%	21.5%
8	24.5%	1.2%	68.5%	5.7%
9	9.1%	4.0%	75.2%	11.7%
10	18.2%	2.1%	70.3%	9.3%
11	14.0%	3.6%	71.1%	11.2%
12	30.0%	1.4%	60.4%	8.2%
13	63.6%	2.8%	20.9%	12.7%
14	13.5%	3.1%	74.8%	8.6%

Note: This table reports the share of the electorate, based on the average across 2020 and 2022 turnout, of each racial group in a given congressional district.

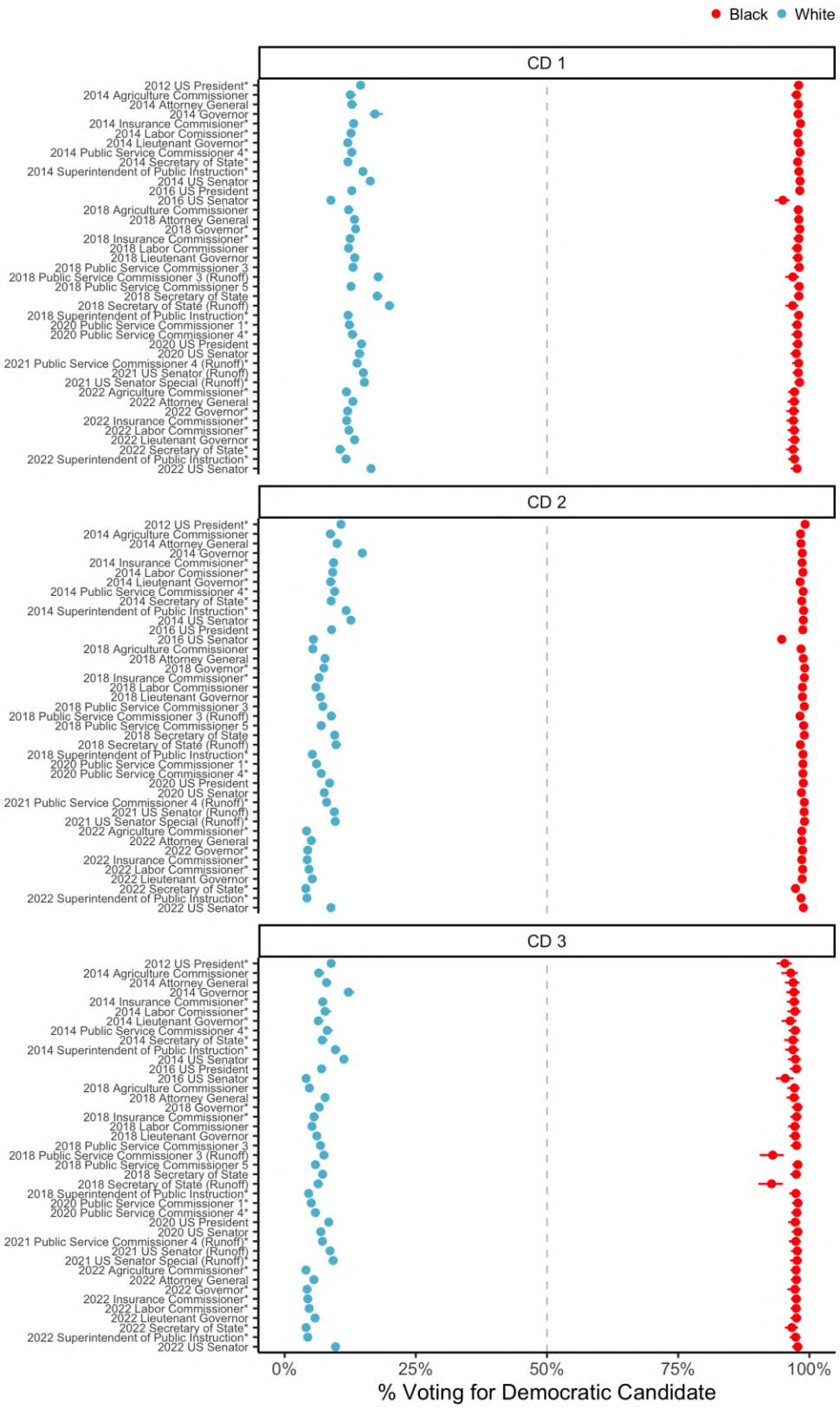

Figure 3: Ecological Inference Results — Enacted Congressional Districts (Historical Elections, Two-Party Vote Shares)

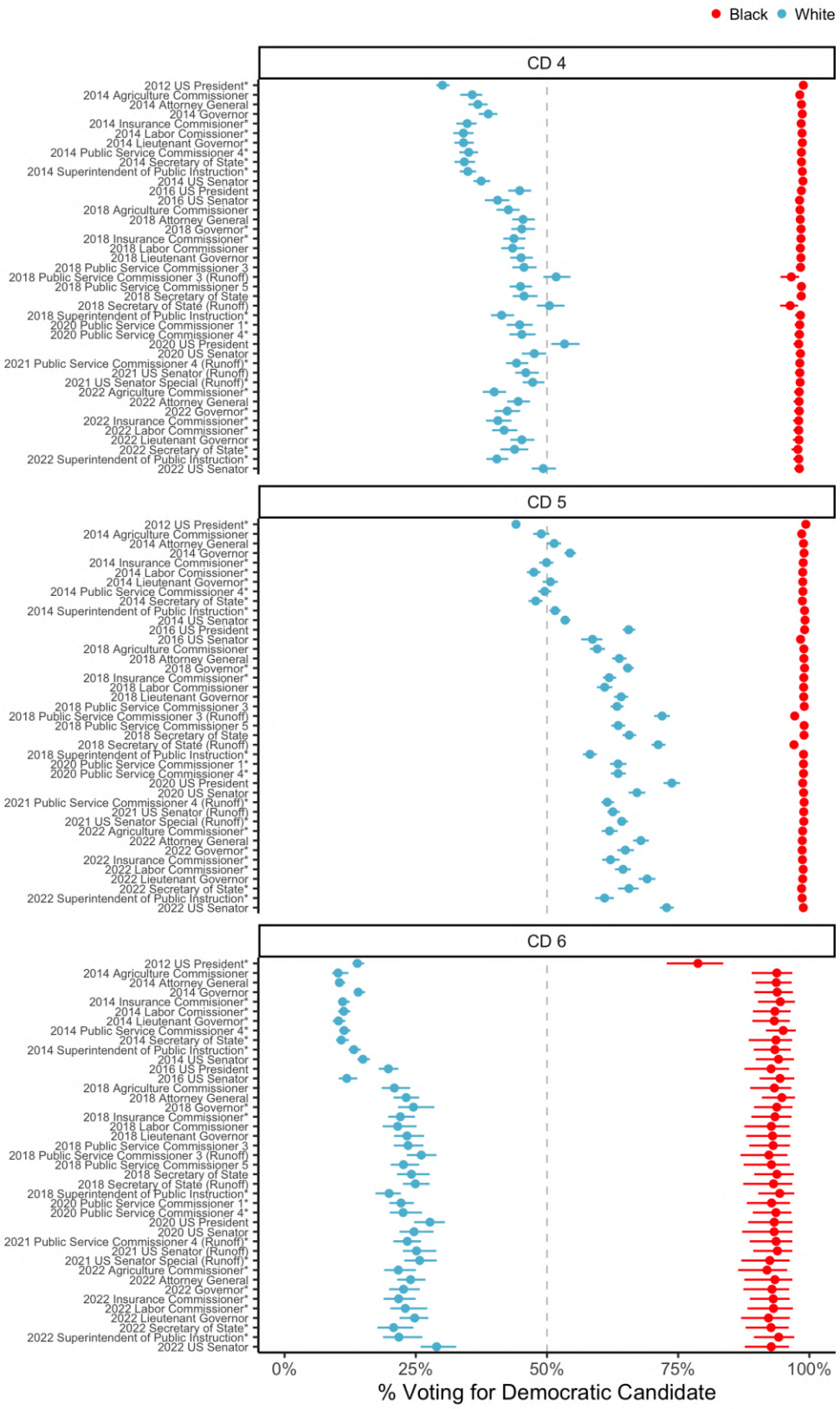

Figure 4: Ecological Inference Results — Enacted Congressional Districts (Historical Elections, Two-Party Vote Shares)

Figure 5: Ecological Inference Results — Enacted Congressional Districts (Historical Elections, Two-Party Vote Shares)

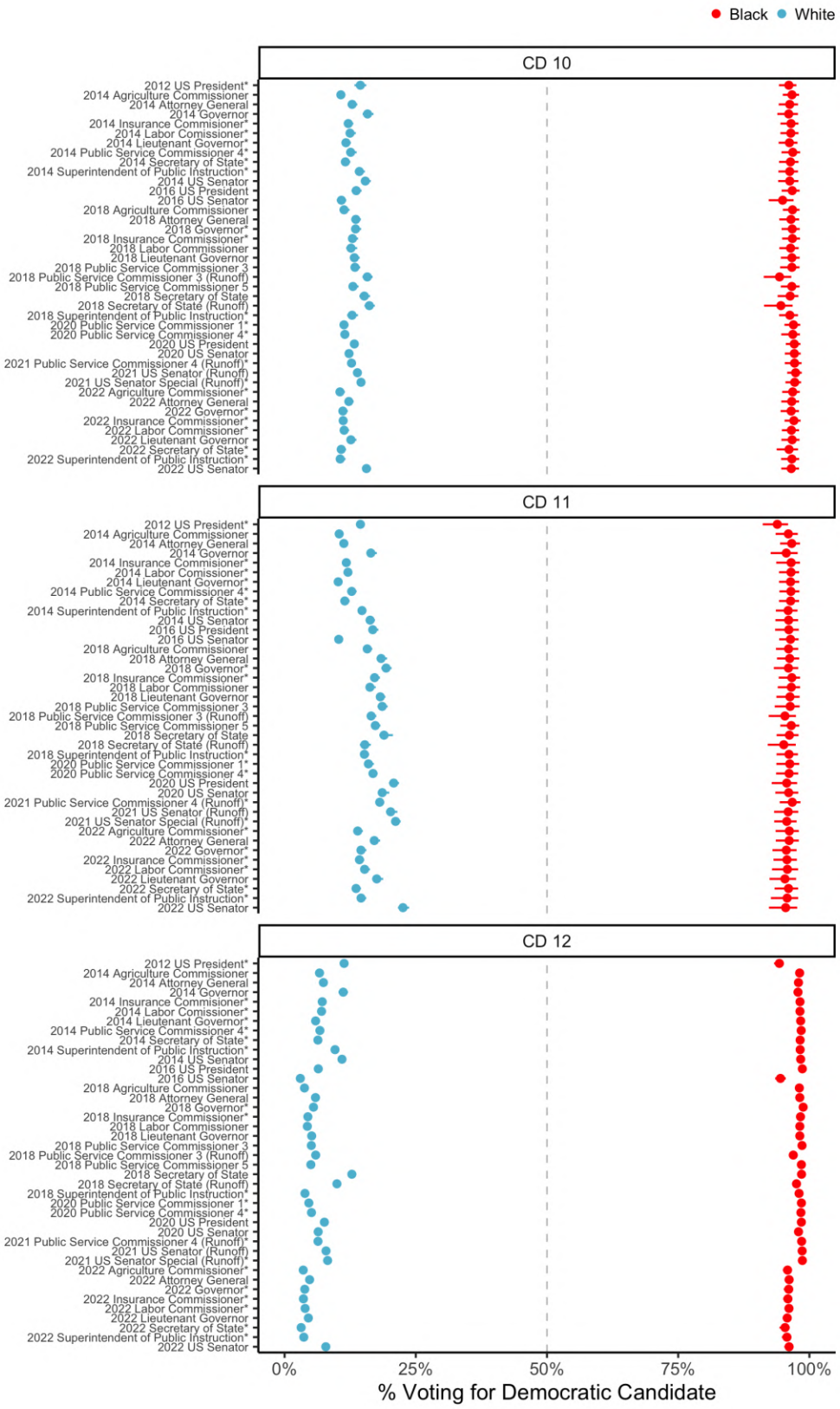

Figure 6: Ecological Inference Results — Enacted Congressional Districts (Historical Elections, Two-Party Vote Shares)

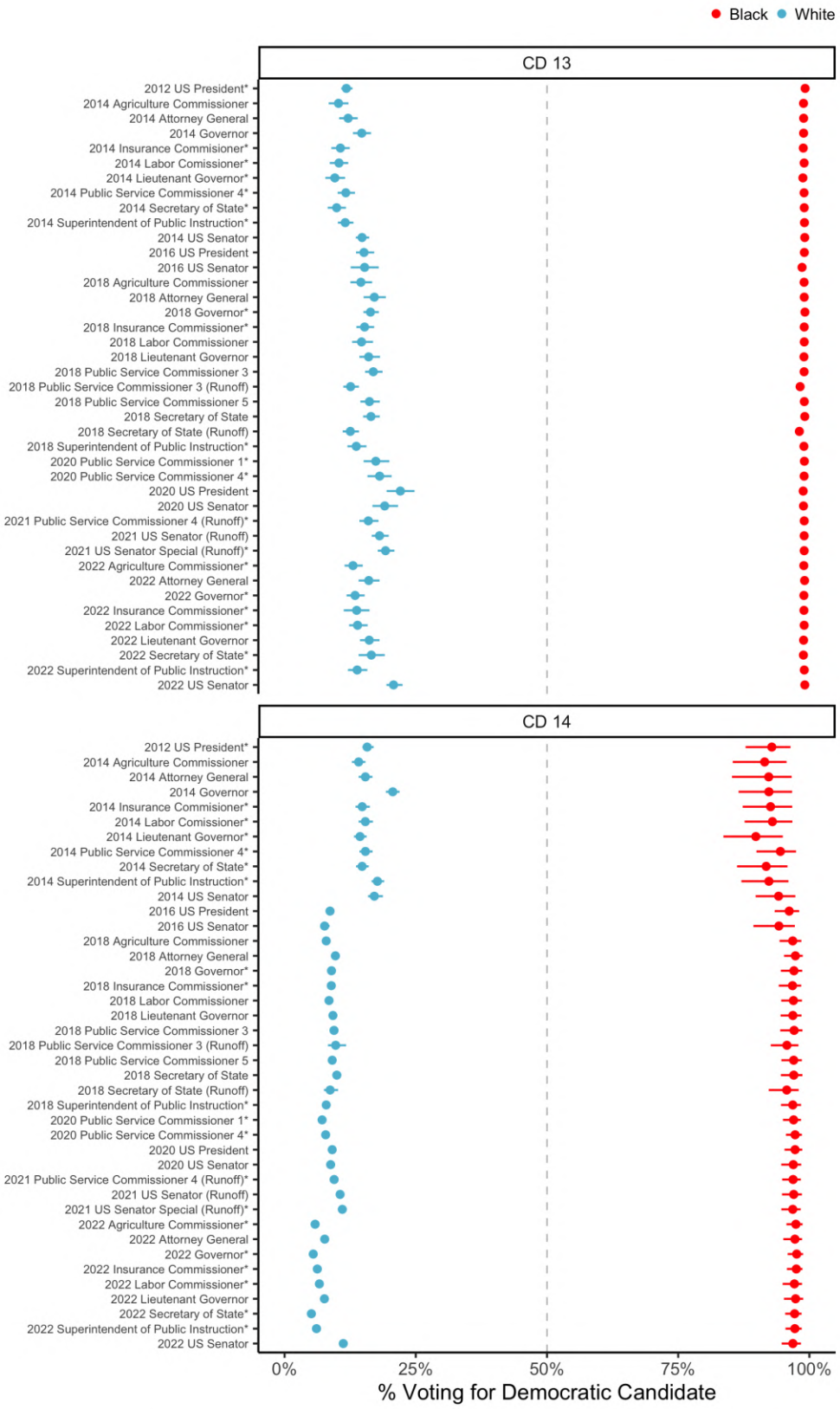

Figure 7: Ecological Inference Results — Enacted Congressional Districts (Historical Elections, Two-Party Vote Shares)

State Senate Districts

38. I was asked to examine enacted State Senate districts (SDs) that meaningfully overlapped with any focus illustrative SDs drawn by the plaintiffs' expert Moon Duchin. Therefore, I examine enacted SDs whose areas are comprised of 10% or more of an illustrative SD. Specifically, I analyze SDs 9, 16, 17, 22, 23, 25, 26, 28, 34, 35, 40, 41, 43, 44 and 55. Figure 8 presents a map of SDs in Georgia, with the districts in question shaded in dark gray. The SDs I am considering stretch in an almost contiguous band from west Georgia through Metro Atlanta to the eastern part of the state.

39. Of these districts, I have been asked to examine the extent of RPV between Black and Hispanic voters on the one hand and White voters on the other hand in SDs 16, 22, 23, 25, 26 and 44.[23] In all other SDs, I examine RPV between Black and White voters.

40. Figures 9-12 present the results of the EI analysis. I include estimates for Hispanic voter behavior in those districts where I have been instructed to examine it, and I omit it for the other districts. SDs 16, 22, 23, 25, 26 and 44 exhibit clear evidence of RPV with Black and Hispanic voters cohering around minority candidates and White voters opposing them in every historical election

[23]Since Hispanic voters comprise a small share of the electorate in many SDs, and the SDs sometimes contain a small number of precincts, when analyzing RPV with Hispanic voters I perform a statewide EI analysis to determine precinct-level estimates, then I aggregate the precinct-level estimates up to the district in question. Compared with an EI analysis restricted to a single district, this approach adds an assumption that racial group voting behavior outside of the district contains useful information about racial group voter behavior within the district. This is similar in nature to the maintained assumption in any district-level EI analysis that behavior in one precinct is informative about behavior in another.

with a minority candidate that I examine. SDs 9, 17, 28, 34, 35, 43 and 55 exhibit evidence of RPV between Black and White voters, again with Black voters cohering around the minority candidate and White voters opposing this candidate.

41. For SDs 40 and 41 the evidence is slightly less clear cut. In SD 41, White voters join Black voters in support for minority candidates more than half the time. In my judgment, there is not racially polarized voting in this district. Importantly, it is worth noting that SD 41's boundaries contain less than half of an Illustrative district.[24] On the other hand, in SD 40 White voters opposed minority candidates in all but a handful of elections. Given the overall record of historical elections, my assessment is that there is evidence of RPV in SD 40.

42. Aside from the above exceptions, there is evidence of racially polarized voting behavior between Black and White voters in every other State Senate district I analyzed. Black voters clearly supported the minority-preferred candidate in every election under study, including those elections with a minority candidate running. White voters opposed their candidate of choice. Similarly, in the districts where I have been asked to assess behavior among Hispanic voters, I find evidence of RPV with Black and Hispanic voters supporting the minority-preferred canddiate and White voters opposing them in every election.

[24] About 39.6% of Illustrative Map 1 SD 40 is contained in enacted SD 41.

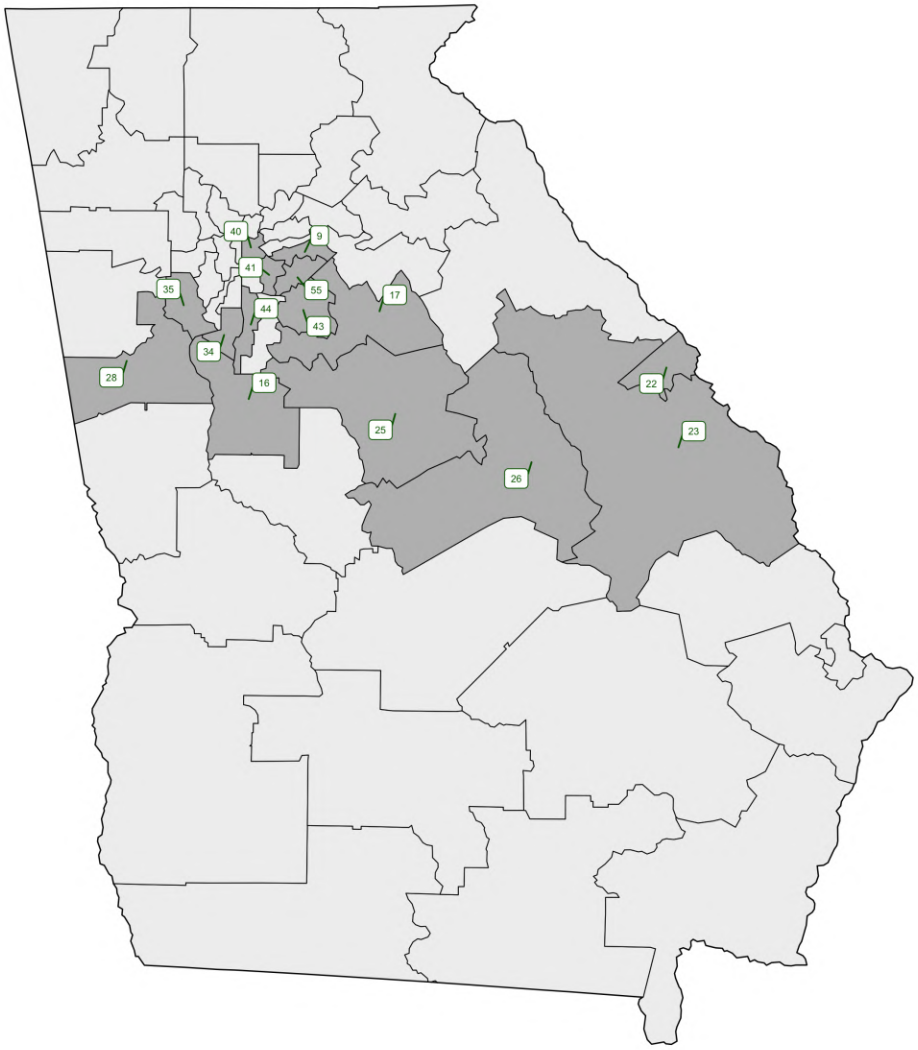

Figure 8: Map of Focus State Senate Districts

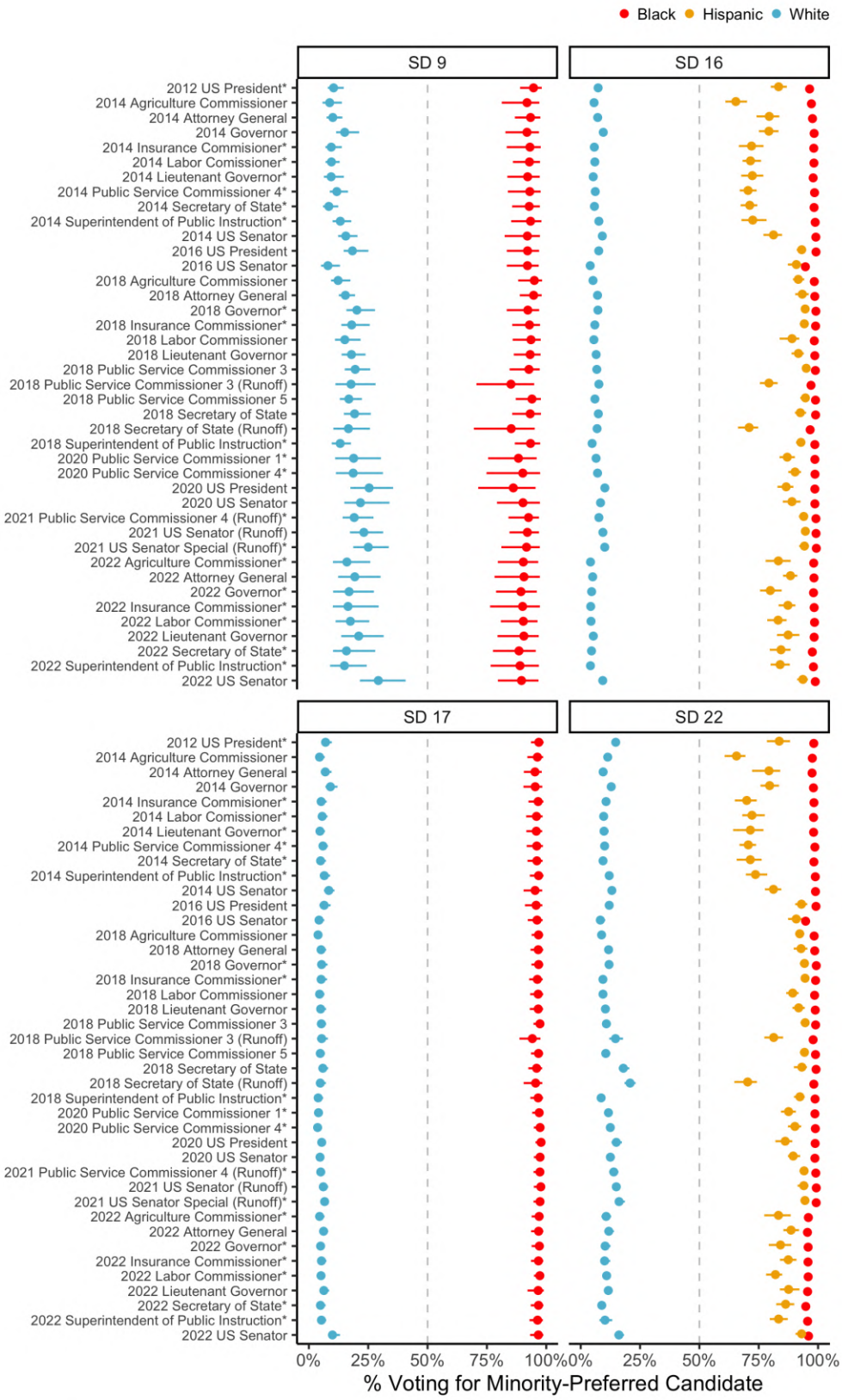

Figure 9: Ecological Inference Results — State Senate Districts (Historical Elections, Two-Party Vote Shares)

Figure 10: Ecological Inference Results — State Senate Districts (Historical Elections, Two-Party Vote Shares)

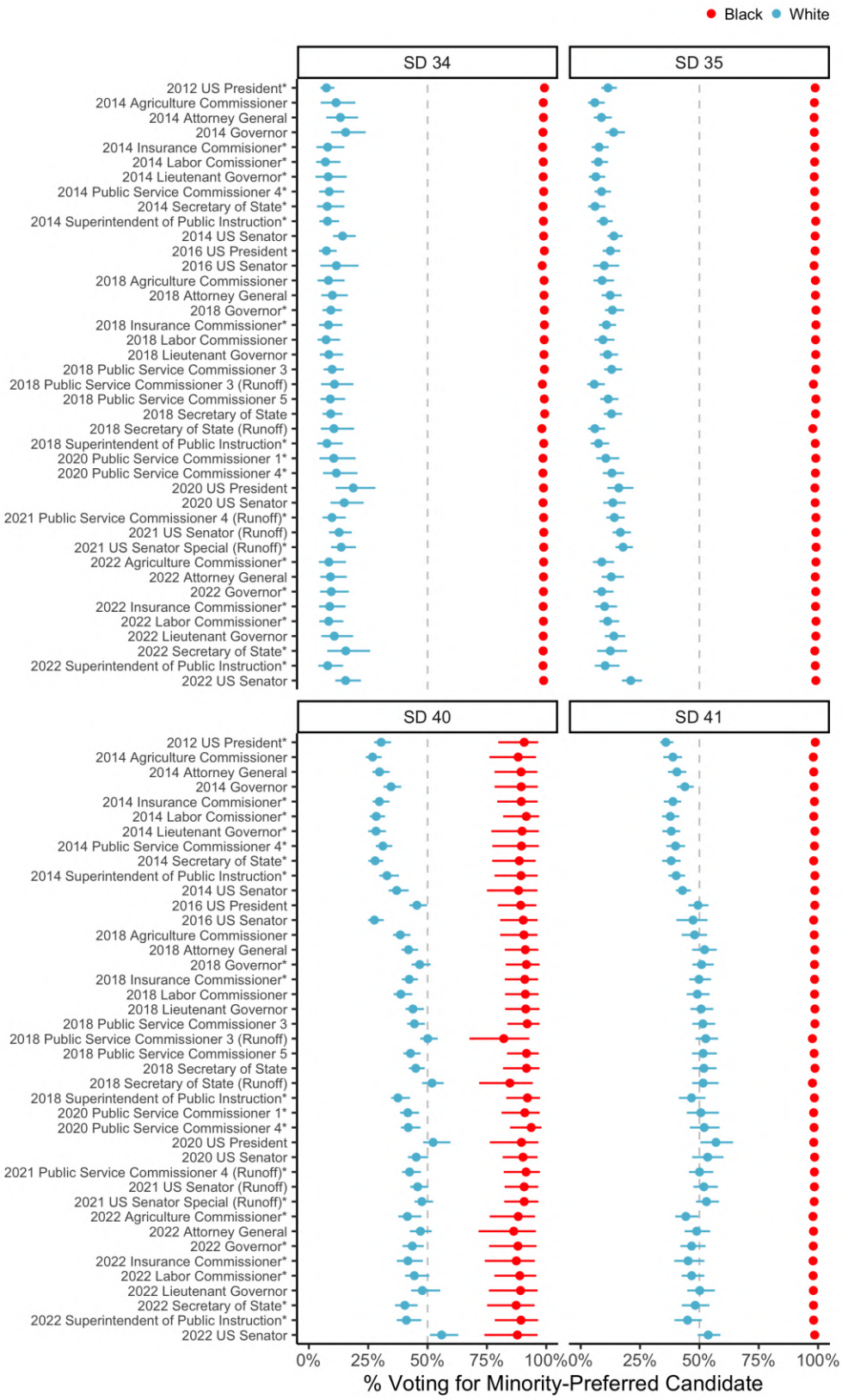

Figure 11: Ecological Inference Results — State Senate Districts (Historical Elections, Two-Party Vote Shares)

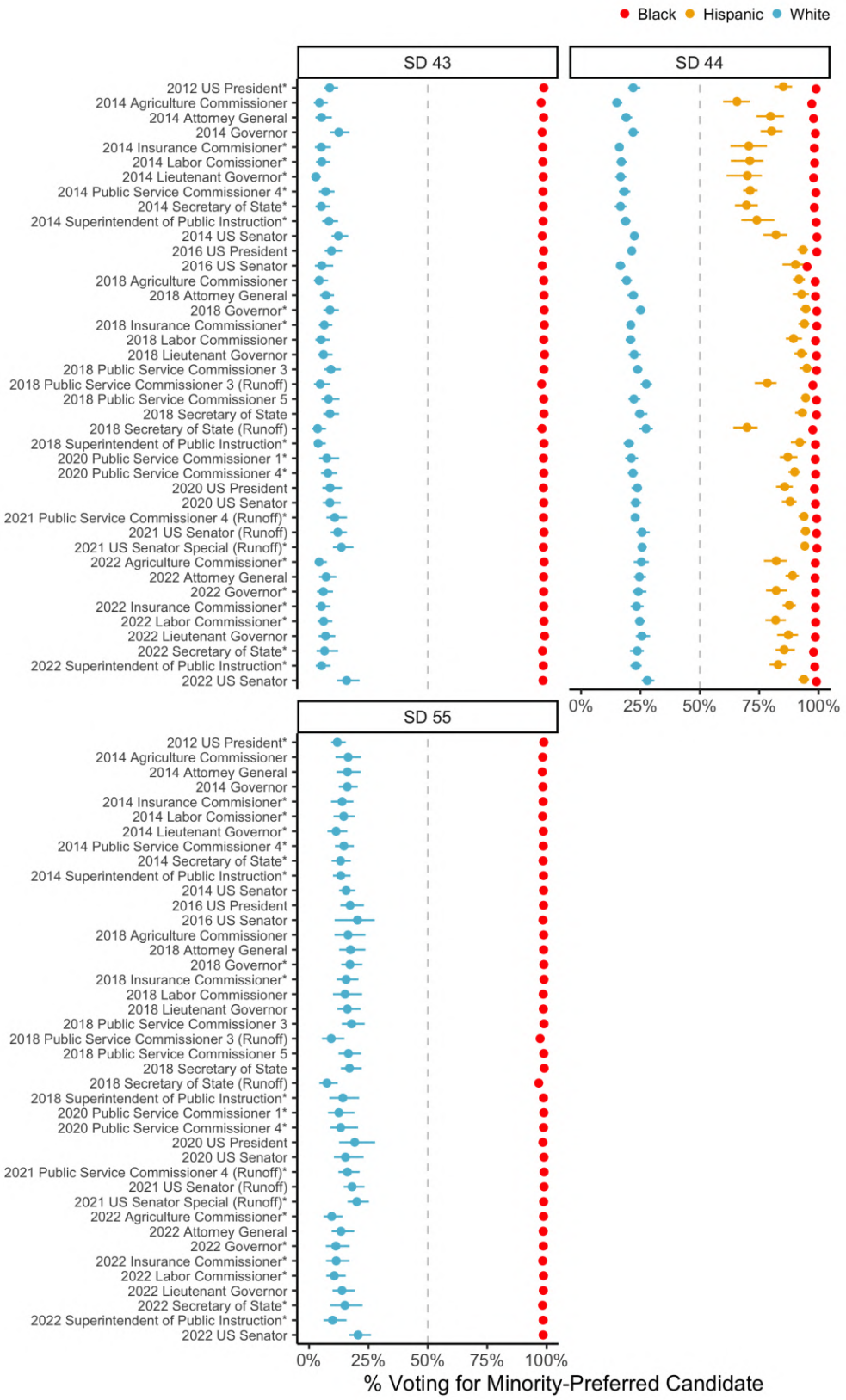

Figure 12: Ecological Inference Results — State Senate Districts (Historical Elections, Two-Party Vote Shares)

State House Districts

43. I was asked to examine enacted State House districts (LDs) that meaningfully overlapped with any focus illustrative LDs drawn by the plaintiffs' expert Moon Duchin. As before, I examine enacted LDs whose areas are comprised of 10% or more of an illustrative LD. Specifically, I analyze LDs 61, 64, 65, 66, 74, 78, 115, 116, 117, 140, 142, 143, 151, 154, 161, 163, 165 and 171. Figure 13 presents a map of LDs in Georgia, with the districts in question shaded in dark gray.

44. Of these districts, I have been asked to examine the extent of RPV between Black and Hispanic voters on the one hand and White voters on the other hand in LDs 161, 163 and 165.[25] In all other LDs, I examine RPV between Black and White voters.

45. Drawing conclusions from the EI analysis for the individual Georgia state House Districts can be slightly more challenging than for the other districts in the report since State House districts themselves are small and sometimes contain few precincts (e.g., less than fifteen). I have elected to report all results because with the Bayesian estimation methods used for EI they remain valid even for small samples; however, it is worth noting that some estimates will have wide confidence intervals, not necessarily due to voter behavior but simply because of the limited data available.

46. Figures 14-18 present the estimates for the House districts that I examine. LDs 61, 65, 74, 115, 142, 143, 151, 154 and 171 present clear evidence of RPV with Black voters selecting the minority candidates as their candidate of choice,

[25] I use the same method as with the State Senate districts to perform this analysis.

and White voters opposing these candidates in every historical election. LDs 161, 163 and 165 similarly present clear evidence of RPV with Black and Hispanic voters cohering to select the minority candidates as their candidate of choice, and White voters opposing these candidates in every historical election.

47. Of these districts with Black and Hispanic voters cohering, LDs 163 and 165 occasionally see White voters join with minority voters to support a minority-preferred candidate; however, this happens rarely and in fact never occurs when a minority candidate runs for election against a non-minority candidate.

48. For LDs 78 and 117 there is some uncertainty in the estimates for subsets of elections, but on balance the estimates show that Black voters supported minority candidates and were opposed by White voters in a vast majority of historical elections. For LD 116, the estimates reflect some uncertainty in the behavior of White voters, but there is significant evidence of RPV in 65% of elections and there is evidence of RPV in all 2022 statewide elections.

49. To sum up, then, I observe RPV between Black and White voters in LDs 61, 65, 74, 78, 115, 116, 117, 142, 143, 151, 154 and 171 and between Black and Hispanic voters on the one hand and White voters on the other in LDs 161, 163 and 165.

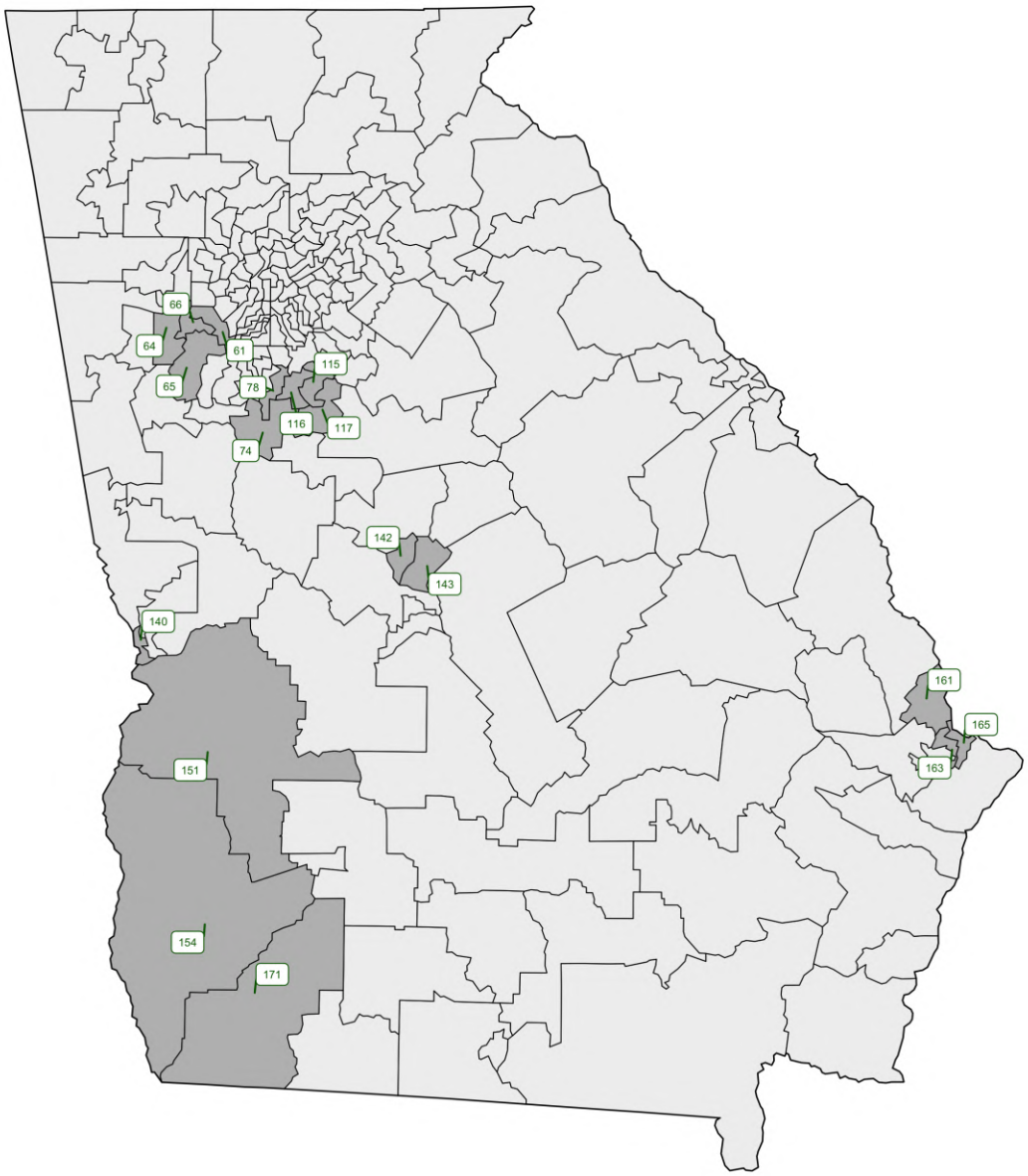

Figure 13: Map of Focus State House Districts

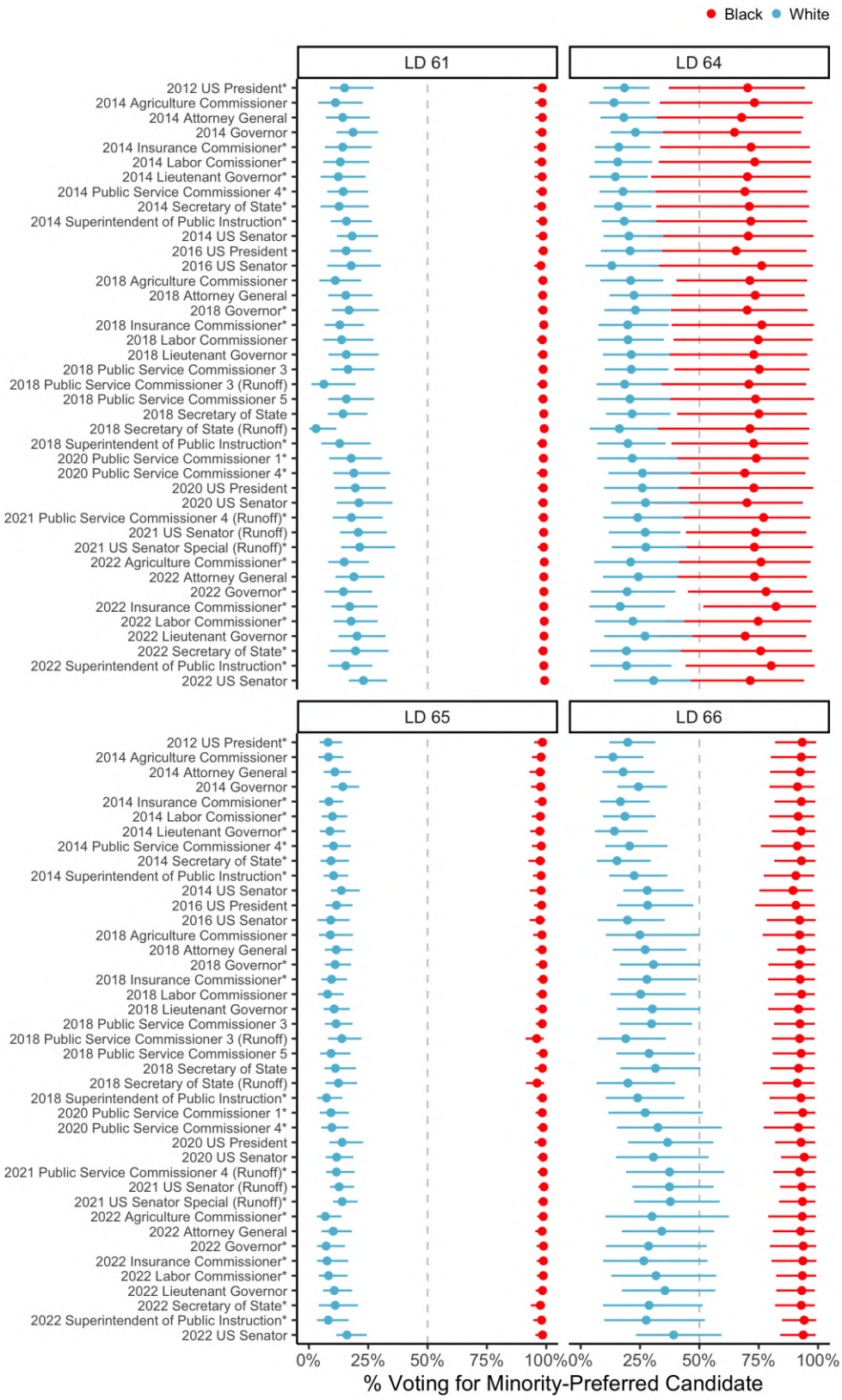

Figure 14: Ecological Inference Results — State House Districts (Historical Elections, Two-Party Vote Shares)

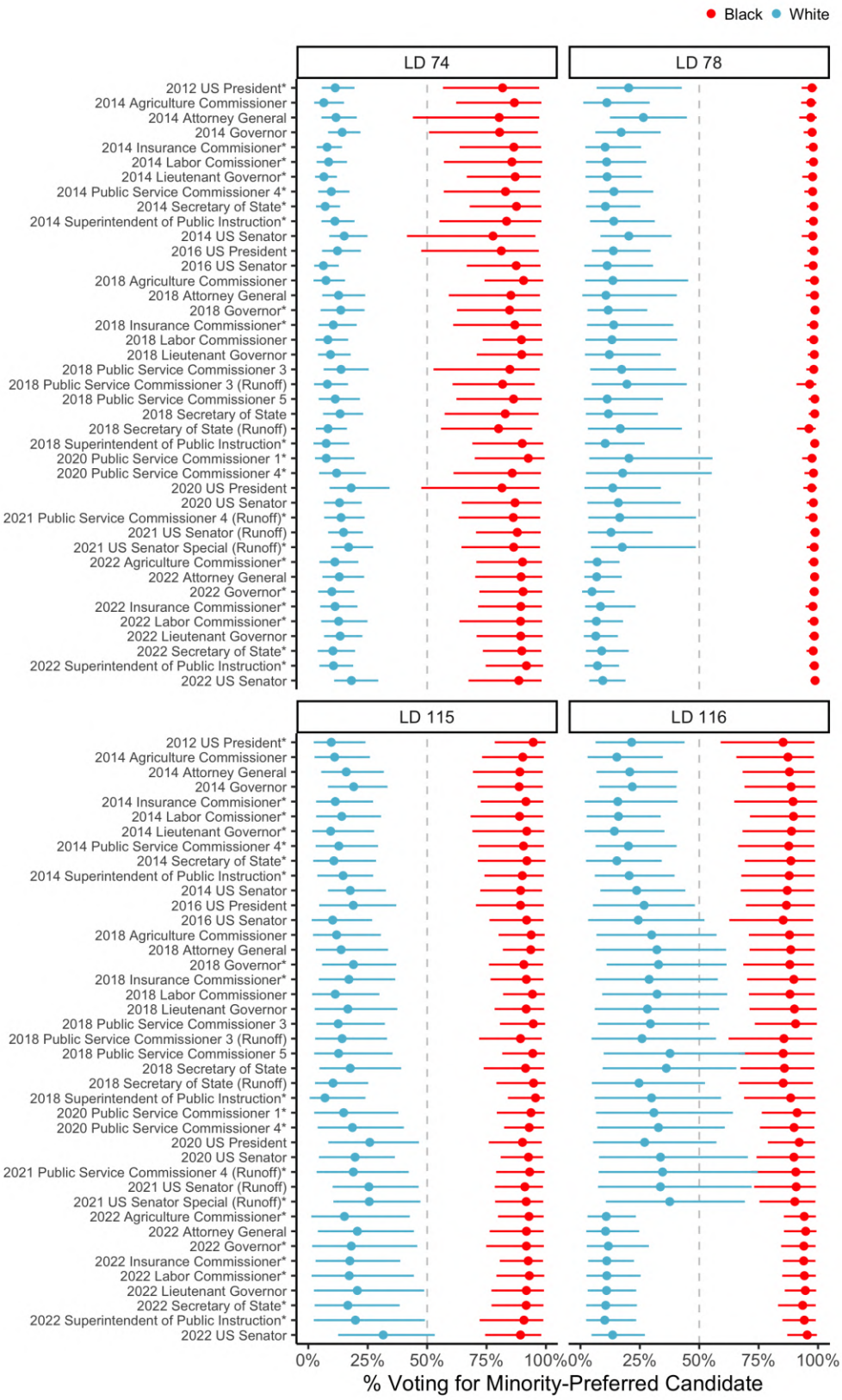

Figure 15: Ecological Inference Results — State House Districts (Historical Elections, Two-Party Vote Shares)

Figure 16: Ecological Inference Results — State House Districts (Historical Elections, Two-Party Vote Shares)

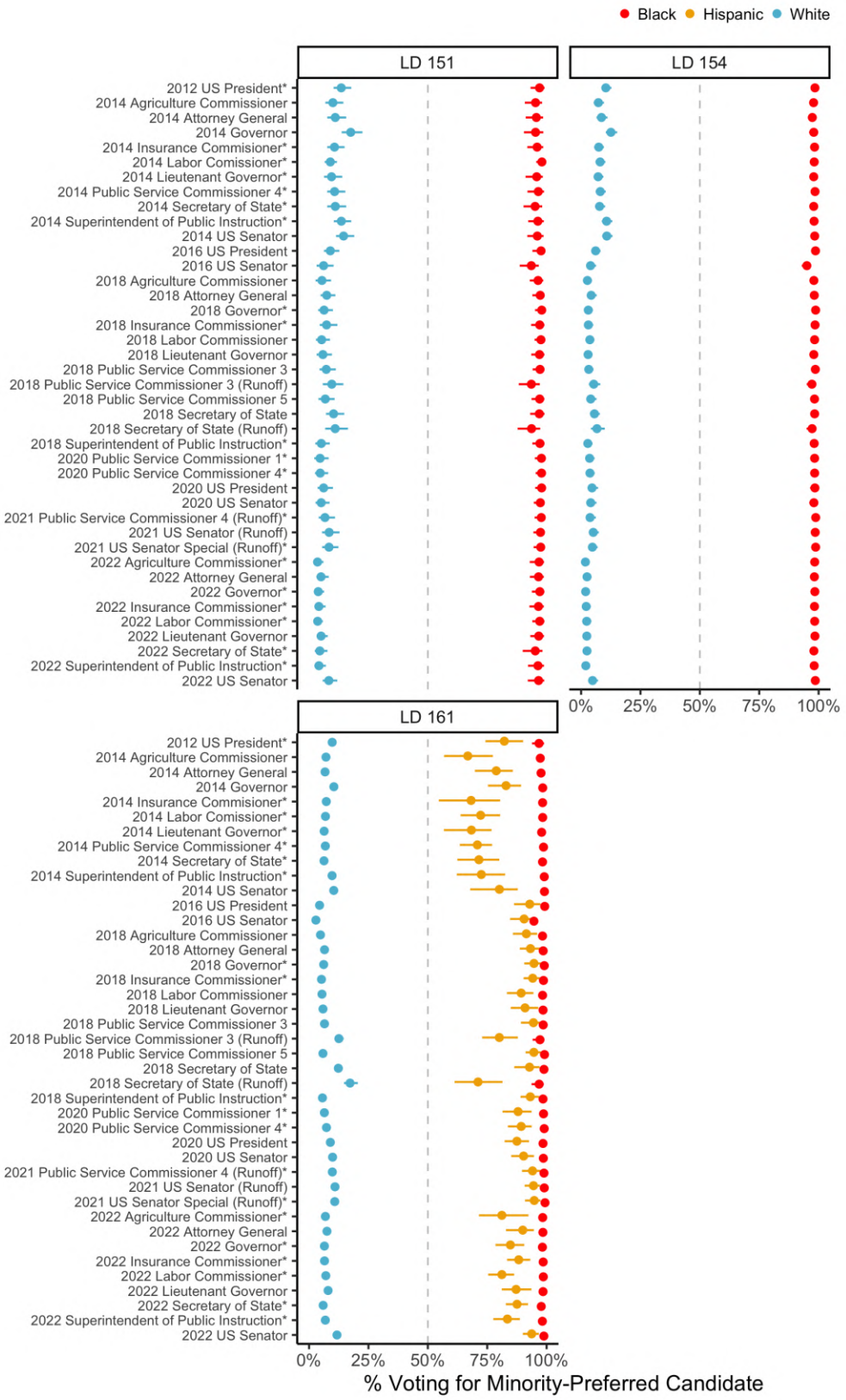

Figure 17: Ecological Inference Results — State House Districts (Historical Elections, Two-Party Vote Shares)

Figure 18: Ecological Inference Results — State House Districts (Historical Elections, Two-Party Vote Shares)

Clusters

50. I have also been asked to examine the extent of RPV in geographic clusters that were used as the starting point for drawing the plaintiffs' illustrative maps. Appendix Figure 30 depicts the geographic clusters given to me for the state Senate map. These clusters partition the state's Senate districts into the following broad geographic areas: Atlanta, East Black Belt, Gwinnett, Northwest, Southeast and Southwest. The plaintiffs' map-drawing expert Moon Duchin has created new illustrative Maps with districts focused in the Atlanta, East Black Belt and Gwinnett clusters. Therefore, I perform an EI analysis pooling the state Senate districts into these clusters. Figure 19 presents the results.

51. Across these clusters, I observe evidence of RPV between White and Black voters. For each cluster, Black voters cohesively support a candidate of choice and White voters oppose these candidates systematically. Furthermore, Hispanic voters tend to support the same candidates of choice as Black voters. In the Atlanta and Gwinnett clusters, Hispanic voters cohesively support the same candidate of choice as Black voters and the lower confidence interval on the vote share estimate does not overlap withe the 50% threshold in all elections where a minority candidate runs against a non-minority candidate. In fact, the only exceptions are two runoff elections in 2018. In the East Black Belt cluster, Hispanic voters also systematically support the same candidates of choice as Black voters. The estimates for elections before 2016 tend to be more uncertain, with the confidence intervals including the 50% threshold; however,

since 2016 the estimates are more certain and we can conclude that Hispanic voters supported the same candidates of choice as Black voters. Thus, based on the historical elections observed and in particular those since 2016, I conclude that for each of these clusters Black and Hispanic voters vote cohesively for the same candidate of choice and White voters oppose this candidate.

52. I perform a similar exercise for State House districts. Appendix Figure 31 illustrates the geographic starting clusters for the map drawing exercise for state House districts. As before, these clusters partition the state's House districts into the following broad geographic areas: Atlanta, Cobb, DeKalb, East Black Belt, Gwinnett, Southeast and Southwest. Note that though some of the names for these clusters are identical to the cluster names for the state Senate districts, the boundaries differ. Of these clusters, Moon Duchin has drawn new districts focused on the Atlanta, Southwest, East Black Belt and Southeast clusters. As a result, I perform an EI analysis pooling the relevant state House Districts into these clusters. Figure 20 presents the results.

53. Again, I observe evidence of RPV between White and Black voters across all state House clusters I examine. Black voters cohesively support a candidate of choice and White voters oppose this candidate. Based on my estimates, this is true in every cluster and for every statewide election that I examine.

54. Hispanic voters join Black voters in supporting the same candidate of choice in each cluster. In Atlanta, this is true for all past statewide elections pitting a minority candidate against a non-minority candidate, with the confidence intervals never overlapping with the 50% threshold for these elections. For the

other House clusters, while there are some uncertainties, my estimates again suggest that Hispanic voters supported the same candidates as Black voters in all of the past statewide elections that I examine.

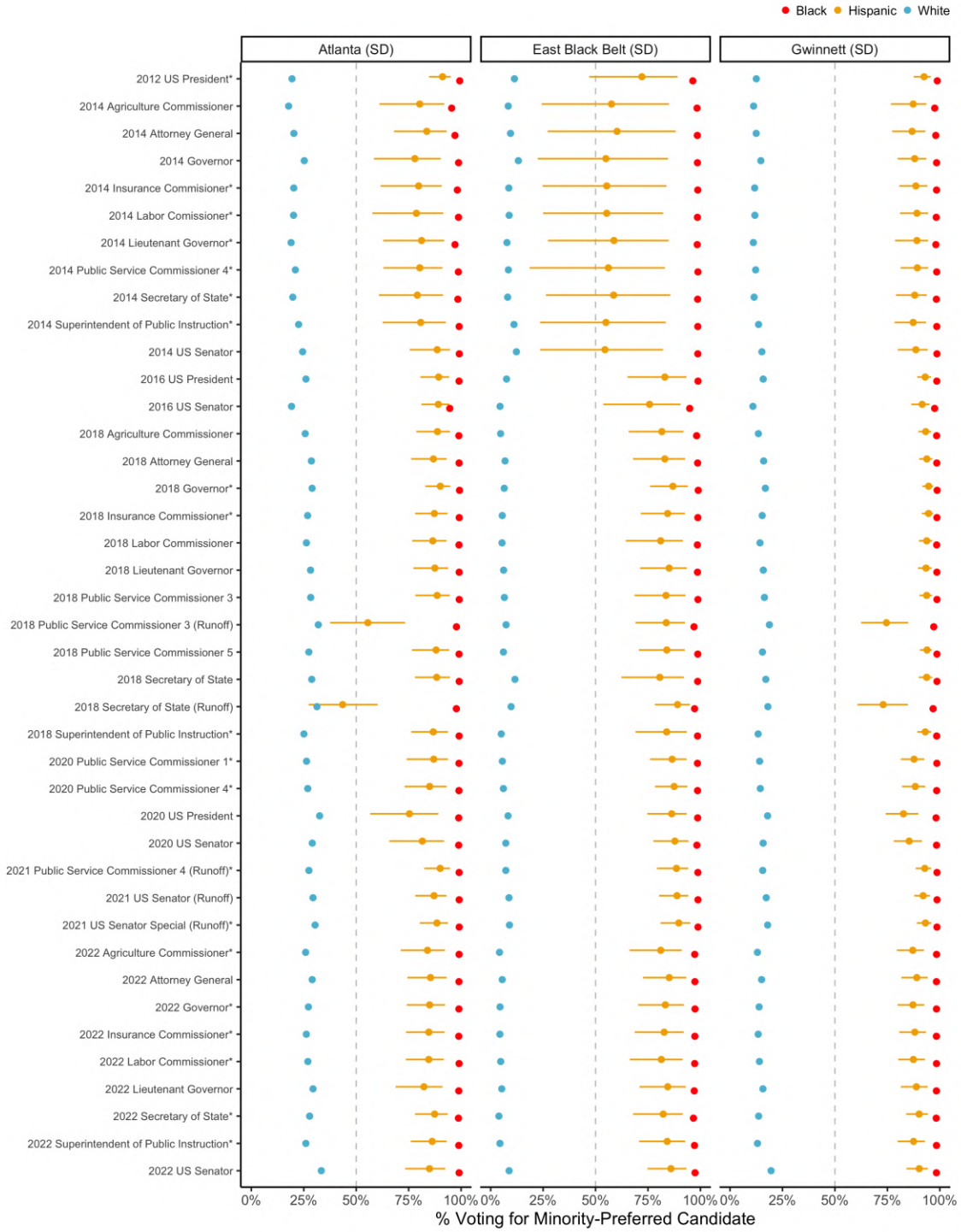

Figure 19: Ecological Inference Results — State Senate Clusters (Historical Elections, Two-Party Vote Shares)

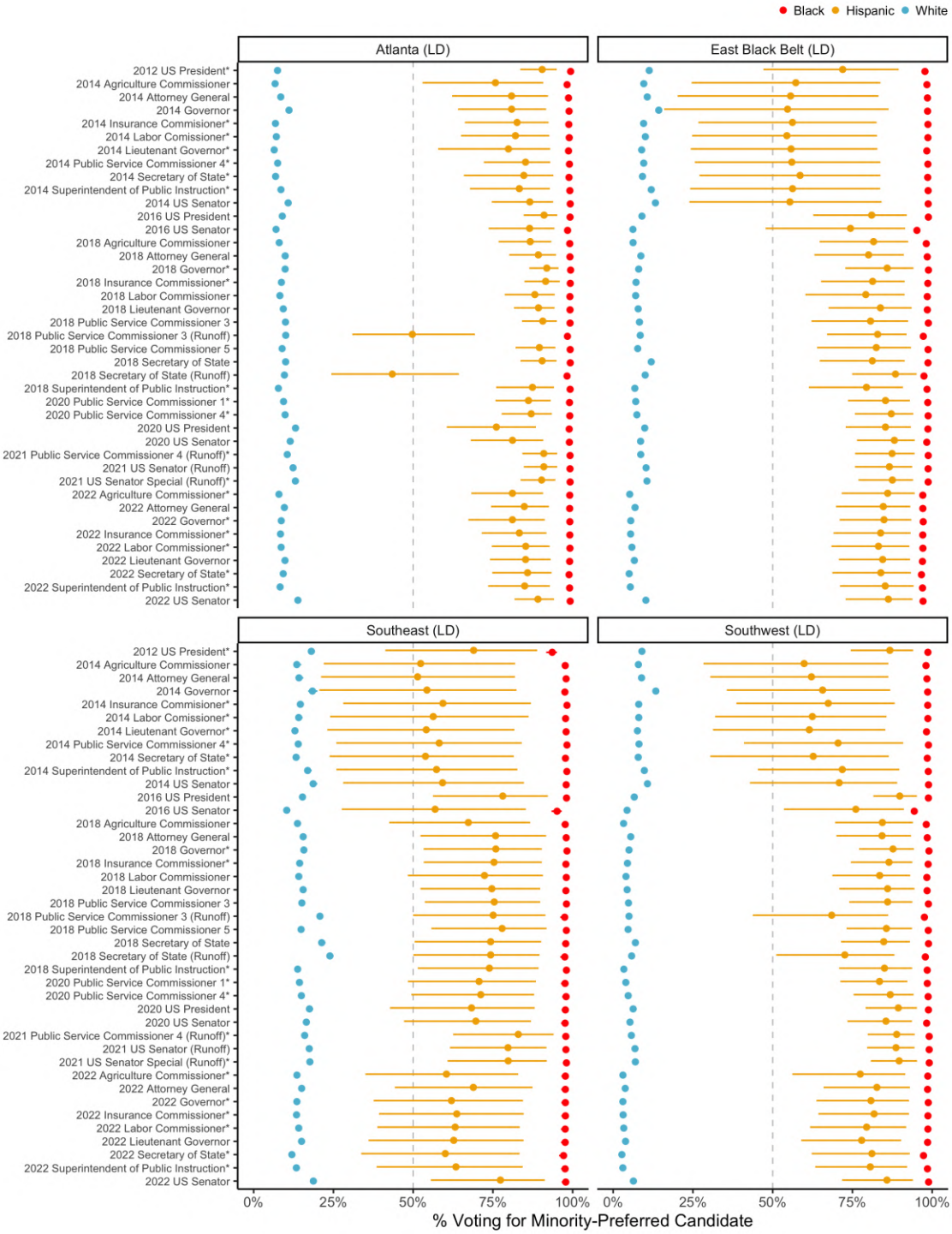

Figure 20: Ecological Inference Results — State House Clusters (Historical Elections, Two-Party Vote Shares)

Performance Analysis of Enacted Districts

55. I now examine the electoral performance of the enacted congressional districts along with the focus enacted state Senate and enacted state House districts. The previous analysis established that in Georgia, in those instances where one minority candidate runs for office and there is racially polarized voting, the candidate of choice for minority voters has historically been the minority candidate. As a result, I use historical election data to examine whether the enacted districts appear to offer minority voters an opportunity to elect their candidates of choice.

Congressional Districts

56. Table 2 presents the 2020 and 2022 share of the electorate for each minority group under consideration, along with several key summary statistics for district-wide electoral performance. To analyze district performance in terms of the ability to elect minority-preferred candidates, I examine the 20 statewide elections considered in this report in which a racial minority candidate ran against a non-minority candidate since 2012. Table 10 in the Appendix denotes these elections with a star and reports the names of these candidates. I report the mean two-party minority-preferred candidate vote share across all elections with a minority candidate that I examined. I also report the lowest vote share received by a minority candidate, in order to provide a sense of a lower bound of electoral performance. Finally, based on the historical elections, I report the share of elections in which minority candidates would have earned a

majority of the two-party vote in the district, along with the share of elections in which minority candidates would have earned over 55% of the vote, which is a conventional cutoff used in voting rights litigation to indicate a safer district.

57. In CDs 4 and 13, Black voters comprise a majority (or near-majority) of the electorate and, based on historical elections, these voters would be able to elect their candidates of choice if conditions in the districts remain similar. Minority-preferred candidates earned a majority of the two-party vote share in each election I examined for these districts, and the vote share surpassed 55% in every election in CDs 4 and 13.

58. In CDs 1, 3, 6, 8, 9, 10, 11, 12 and 14, White voters comprise a strong majority of the electorate. If conditions remain similar to historical elections, minority voters who preferred a minority candidate would not be able to elect that candidate: the minority-preferred candidate did not win in **any** of the historical elections I examine for these districts.

59. CD 7 is a multi-racial district in which no one racial group comprises a majority of the electorate. Based on historical elections, minority candidates in these statewide elections would have received a majority in the district 65.0% of the time. Candidates won "safely" (e.g., over 55% of the vote) at the same rate. Given the demographic composition of the district, and the fact that the previous RPV analysis showed strong evidence of Black voters cohesively supporting minority candidates, this is a district that could perform more strongly than it does as drawn (in terms of allowing minority voters to elect their candidates of choice).

60. CD 2 is split close to evenly between Black and White voters. In 2022, White voters comprised 56% of the electorate, and Black voters comprised 37%. Black voters retained the ability to elect candidates of choice in this district, with that candidate winning every statewide election I examined in this district.

61. CD 5 did not exhibit RPV in the previous analysis. White voters have historically voted along with minority voters to select minority voters' candidates of choice.

62. Overall, then, minority voters have a very strong chance of electing preferred candidates in three of fourteen congressional districts (CDs 4, 5 and 13). Minority voters have a chance of electing minority candidates slightly more than half the time in CDs 2 and 7. Finally, based on historical elections, minority voters have close to no chance of electing preferred candidates in the remaining nine congressional districts.

Table 2: Performance Analysis (Elections with a Minority Candidate), Enacted CDs

CD	Black 2020	Black 2022	Hispanic 2020	Hispanic 2022	Mean M Vote	Min M Vote	M Wins	M Over 55%
1	24.3%	23.5%	2.0%	1.6%	41.0%	39.0%	0.0%	0.0%
2	44.6%	36.9%	1.3%	0.9%	51.7%	44.4%	70.0%	25.0%
3	18.8%	23.2%	1.9%	1.8%	32.9%	28.1%	0.0%	0.0%
4	50.9%	46.7%	2.5%	2.1%	74.1%	69.0%	100.0%	100.0%
5	40.4%	38.2%	2.4%	2.3%	79.0%	73.9%	100.0%	100.0%
6	7.3%	7.2%	3.5%	3.2%	33.1%	24.1%	0.0%	0.0%
7	29.3%	27.4%	7.5%	5.5%	54.1%	43.4%	65.0%	60.0%
8	25.0%	24.0%	1.5%	0.9%	33.6%	31.3%	0.0%	0.0%
9	8.5%	9.7%	4.7%	3.3%	26.2%	21.4%	0.0%	0.0%
10	18.6%	17.9%	2.3%	2.0%	34.6%	30.8%	0.0%	0.0%
11	14.6%	13.4%	4.0%	3.2%	35.6%	28.1%	0.0%	0.0%
12	31.7%	28.1%	1.5%	1.3%	41.1%	37.5%	0.0%	0.0%
13	63.7%	63.4%	3.3%	2.4%	77.7%	71.8%	100.0%	100.0%
14	13.1%	14.0%	3.8%	2.4%	29.5%	27.8%	0.0%	0.0%

Note: This table reports the share of the electorate, based on 2020 and 2022 turnout, of each minority racial group in a given congressional district along with the mean and minimum minority candidate vote share (labelled M) in the district across statewide elections with a minority candidate since 2012.

State Senate Districts

63. In the state Senate districts under consideration, there appears to be only a handful of competitive districts. Most either offer no chance for the election of minority-preferred candidates or are, on the other hand, clear minority majority districts. Based on historical elections, the candidate preferred by minority voters would not have won in any election I examine between 2012 and 2022 in SDs 16, 17, 23, 25 and 28. Conversely, in SDs 22, 26, 34, 35, 41, 43, 44 and 55 the minority-preferred candidate would have won in all past elections I examine.

64. SDs 9 and 40 are the only focus districts with some evidence of possibly meaningful electoral competition. SD 9 is a multi-racial district that has elected minority voters' candidates of choice slightly more than half of the time. SD 40, a district with a majority White electorate, has performed similarly in past elections.

Table 3: Performance Analysis (Elections with a Minority Candidate), Enacted SDs

SD	Black 2020	Black 2022	Hispanic 2020	Hispanic 2022	Mean M Vote	Min M Vote	M Wins	M Over 55%
9	28.5%	28.8%	7.4%	5.9%	51.6%	38.8%	65.0%	60.0%
16	18.0%	26.3%	1.9%	1.9%	33.8%	26.8%	0.0%	0.0%
17	26.2%	24.4%	1.8%	1.7%	35.1%	29.3%	0.0%	0.0%
22	55.3%	51.8%	1.5%	1.2%	66.5%	62.6%	100.0%	100.0%
23	31.8%	26.1%	1.6%	1.4%	38.6%	34.0%	0.0%	0.0%
25	28.8%	27.5%	1.3%	0.8%	37.9%	35.6%	0.0%	0.0%
26	54.5%	44.3%	0.9%	0.8%	60.6%	52.3%	100.0%	70.0%
28	15.0%	24.8%	2.4%	1.7%	31.3%	24.6%	0.0%	0.0%
34	68.4%	68.6%	3.4%	2.6%	81.7%	76.8%	100.0%	100.0%
35	67.1%	68.5%	2.4%	1.6%	79.2%	71.5%	100.0%	100.0%
40	16.0%	13.9%	5.0%	4.1%	53.6%	42.5%	65.0%	65.0%
41	55.6%	51.1%	2.2%	1.9%	78.7%	73.9%	100.0%	100.0%
43	60.5%	60.1%	1.9%	1.4%	70.2%	62.9%	100.0%	100.0%
44	68.3%	67.3%	2.9%	2.2%	86.2%	82.1%	100.0%	100.0%
55	61.5%	58.6%	3.2%	2.3%	74.9%	69.0%	100.0%	100.0%

Note: This table reports the share of the electorate, based on 2020 and 2022 turnout, of each minority racial group in a given State Senate district along with the mean and minimum minority candidate vote share (labelled M) in the district across statewide elections with a minority candidate since 2012.

State House Districts

65. Based on historical elections, the candidate preferred by minority voters would not have won in any election I examine between 2012 and 2022 in LDs 16, 17, 23, 25 and 28. Conversely, in LDs 22, 26, 34, 35, 41, 43, 44 and 55 the minority-preferred candidate would have won in all past elections I examine.

66. LDs 115, 117, 151 and 154 are the only (possibly) competitive districts among the examined state House districts. The electorate for LD 151 is split roughly evenly between White and Black voters. Based on historical elections, the minority candidate of choice would have garnered a majority of the vote in this district in 65.0% of historical elections I examine. However, this does not appear to be a safe district by any means. In only 5.0% of elections was the margin at the level to call the district safe (e.g., over 55% of the two-party vote).

67. In LD 117, based on historical elections, minority voters are just now beginning to be able to elect minority-preferred candidates. Only in the three 2021 runoff elections and the 2022 general elections did minority candidates garner more than half the vote in this district, and in no cases was the margin of victory safe for the candidate of choice.

68. LDs 115 and 154 each offer minority voters the opportunity to elect minority candidates a bit more than half of the time based on historical elections.

Table 4: Performance Analysis (Elections with a Minority Candidate), Enacted LDs

LD	Black 2020	Black 2022	Hispanic 2020	Hispanic 2022	Mean M Vote	Min M Vote	M Wins	M Over 55%
61	70.6%	74.9%	2.1%	1.1%	84.3%	78.9%	100.0%	100.0%
64	26.8%	27.3%	3.2%	3.2%	38.0%	30.6%	0.0%	0.0%
65	54.2%	53.4%	1.8%	1.4%	67.5%	62.8%	100.0%	100.0%
66	50.9%	52.7%	3.3%	2.4%	63.5%	52.7%	100.0%	75.0%
74	21.2%	23.1%	2.2%	1.9%	32.6%	25.9%	0.0%	0.0%
78	67.9%	63.4%	3.2%	2.4%	78.4%	73.9%	100.0%	100.0%
115	45.5%	47.4%	2.7%	2.0%	55.8%	45.8%	65.0%	65.0%
116	52.5%	45.1%	2.9%	2.0%	59.5%	50.4%	100.0%	65.0%
117	34.5%	35.4%	2.4%	1.6%	42.8%	32.5%	10.0%	0.0%
140	58.6%	59.2%	2.4%	1.1%	75.2%	70.3%	100.0%	100.0%
142	53.9%	51.2%	0.8%	0.6%	62.0%	56.8%	100.0%	100.0%
143	58.3%	57.0%	0.9%	0.7%	70.2%	67.6%	100.0%	100.0%
151	44.3%	29.7%	0.9%	0.8%	46.8%	35.4%	65.0%	5.0%
154	49.8%	42.5%	0.4%	0.3%	52.5%	44.5%	70.0%	45.0%
161	22.4%	19.5%	3.1%	2.3%	34.1%	27.9%	0.0%	0.0%
163	42.8%	39.3%	1.8%	1.4%	67.4%	60.4%	100.0%	100.0%
165	54.5%	29.5%	1.2%	1.2%	72.0%	57.1%	100.0%	100.0%
171	32.4%	29.5%	1.0%	0.6%	38.0%	33.3%	0.0%	0.0%

Note: This table reports the share of the electorate, based on 2020 and 2022 turnout, of each minority racial group in a given State House district along with the mean and minimum minority candidate vote share (labelled M) in the district across statewide elections with a minority candidate since 2012.

EI Analysis of Illustrative Districts

69. I now turn to an EI analysis of the Illustrative Maps drawn by the plaintiffs' map-drawing expert Moon Duchin.

Congressional Districts

70. I have been instructed to analyze all congressional districts for RPV between Black and White voters in the Illustrative Map drawn by Moon Duchin. Appendix Figure 32 depicts the map of these illustrative districts.

71. Figures 21-25 report the results for my EI analysis. The results are quite straightforward. Illustrative CD 4 does not exhibit evidence of RPV between Black and White voters. In all other districts, there is essentially universal evidence of RPV between Black and White voters. In these districts, when a minority candidate runs Black voters support them and White voters oppose this candidate. In elections between no minority candidates or two minority candidates, Black voters support the minority-preferred candidate and White voters oppose them.

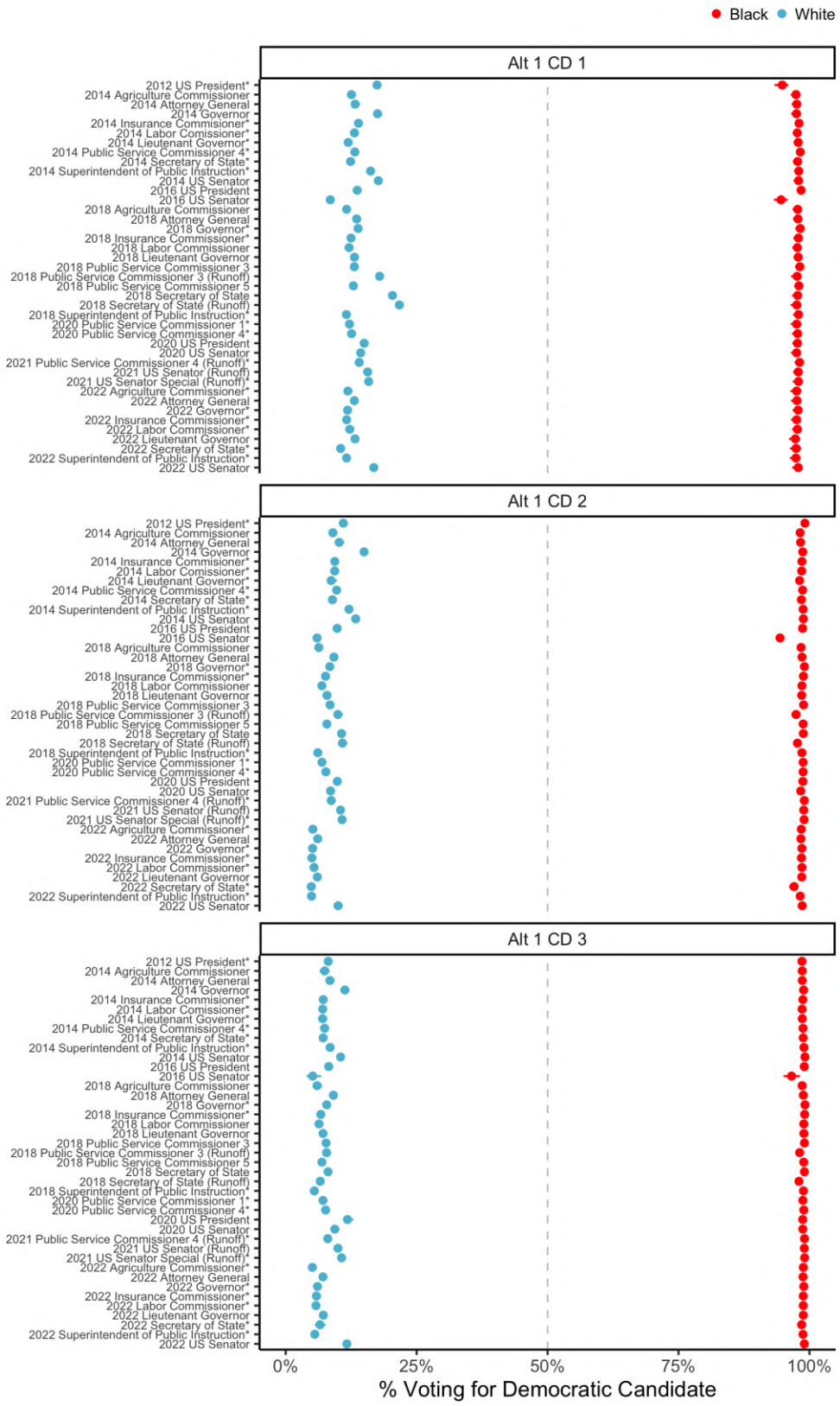

Figure 21: Ecological Inference Results — Illustrative Congressional Districts (Historical Elections, Two-Party Vote Shares)

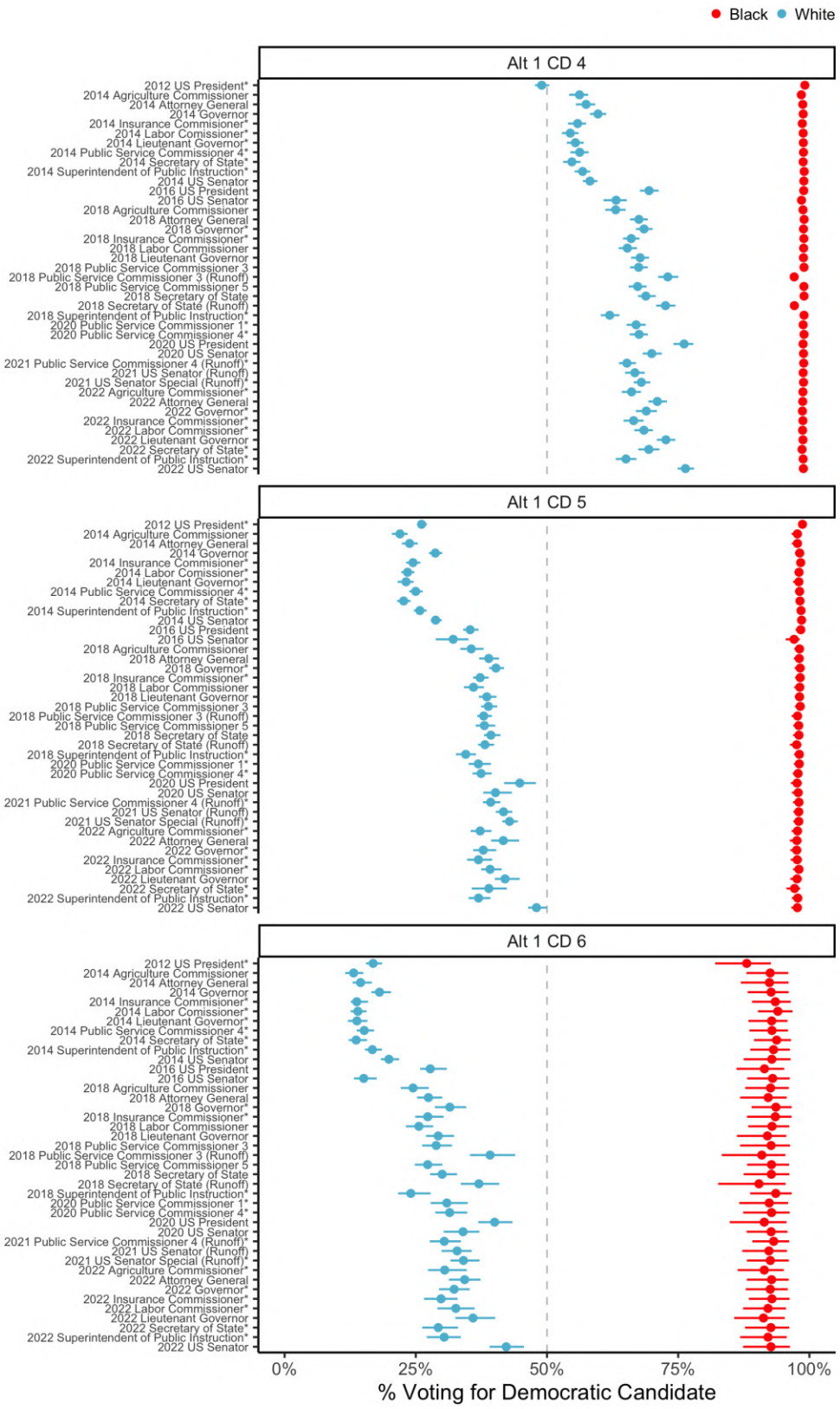

Figure 22: Ecological Inference Results — Illustrative Districts (Historical Elections, Two-Party Vote Shares)

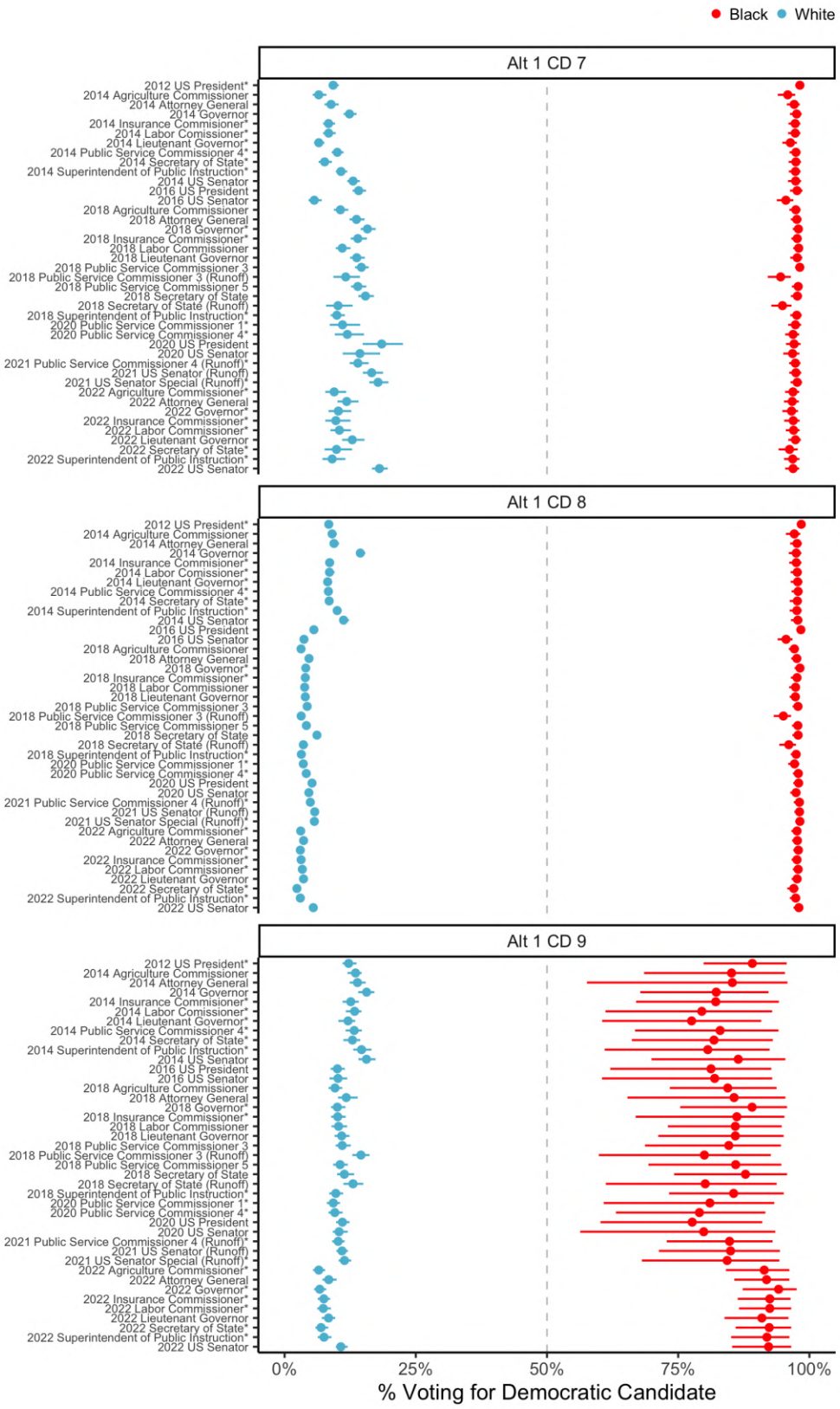

Figure 23: Ecological Inference Results — Illustrative Congressional Districts (Historical Elections, Two-Party Vote Shares)

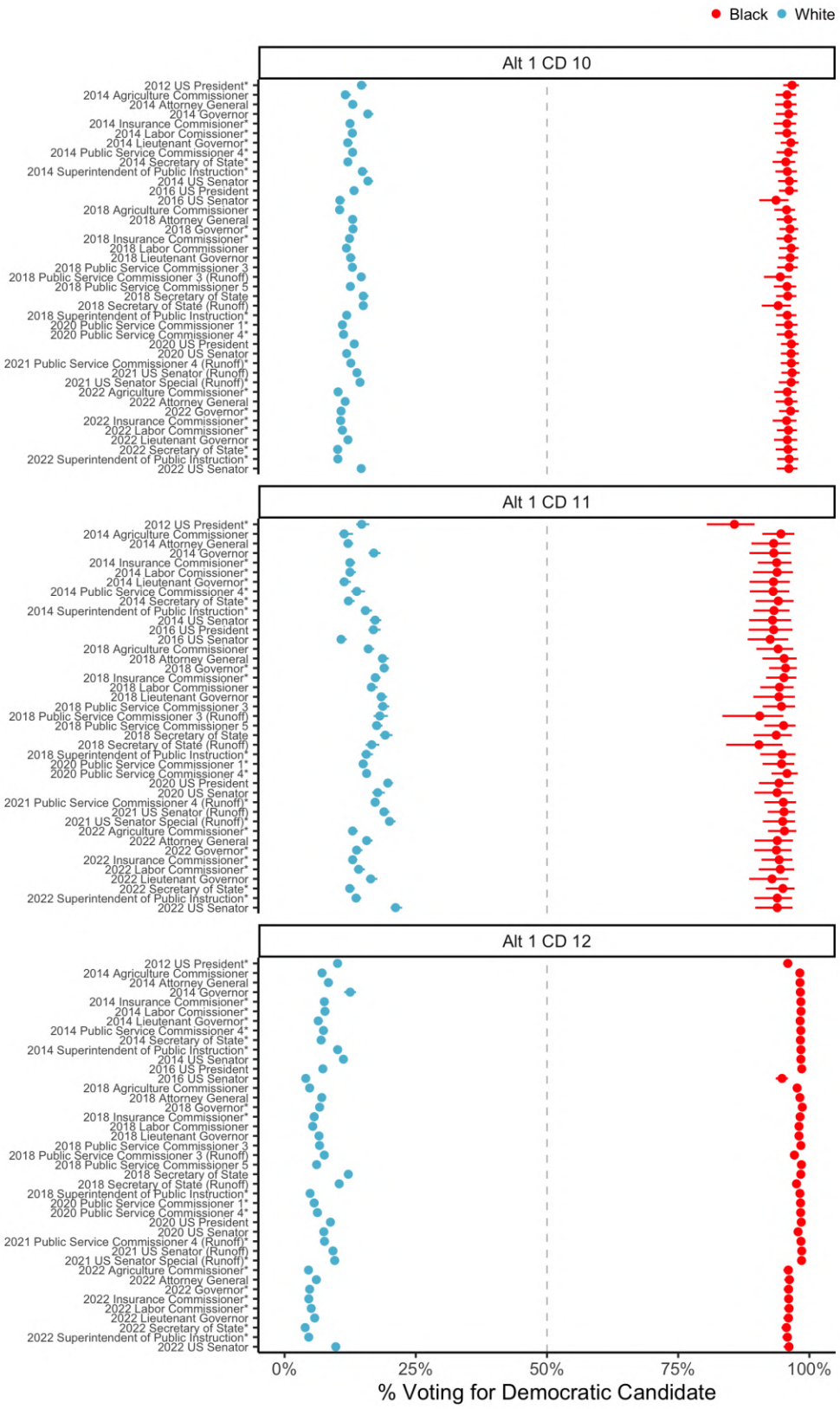

Figure 24: Ecological Inference Results — Illustrative Congressional Districts (Historical Elections, Two-Party Vote Shares)

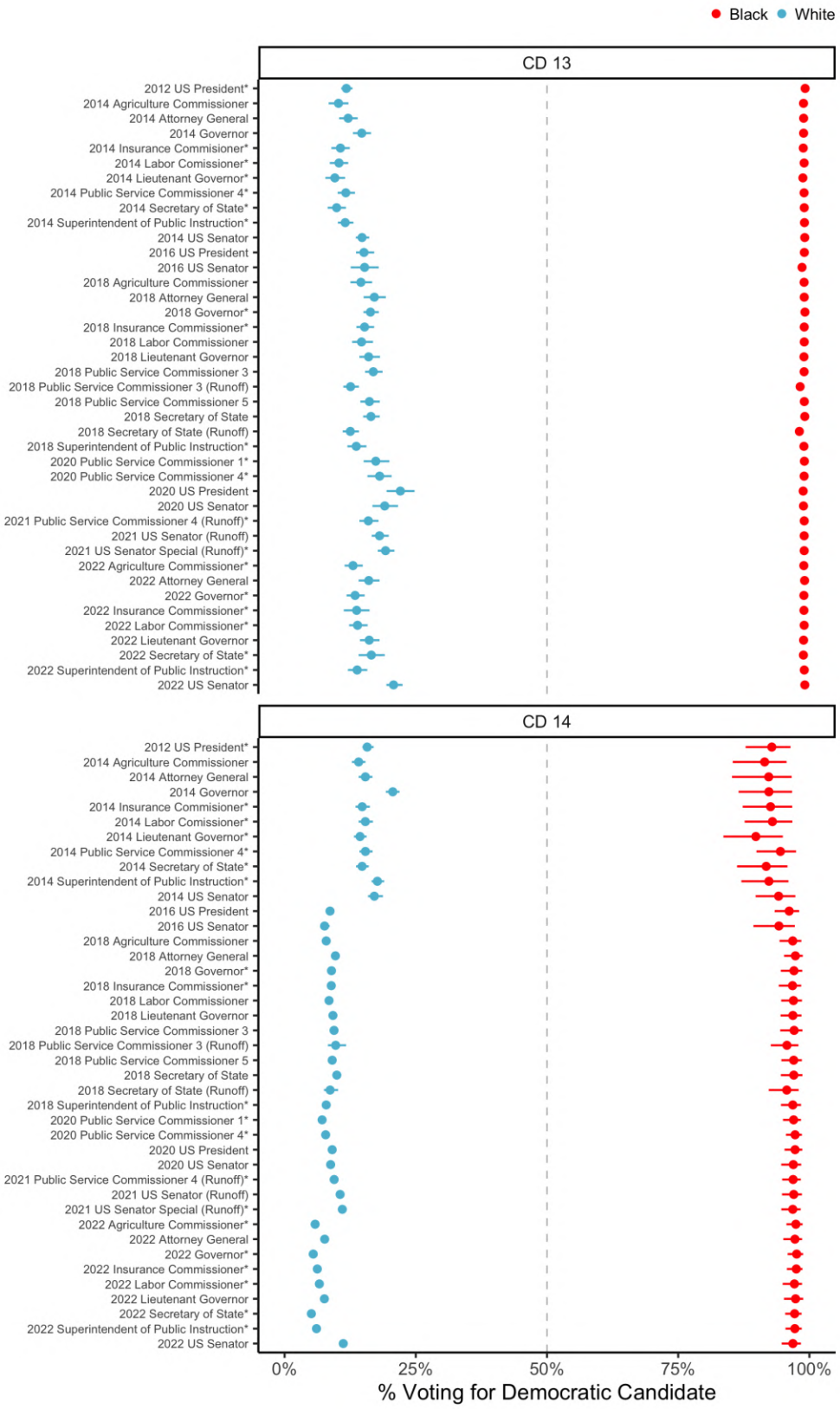

Figure 25: Ecological Inference Results — Illustrative Congressional Districts (Historical Elections, Two-Party Vote Shares)

State Senate Districts

72. I consider two Illustrative Maps of alternative State Senate Districts, and I apply the same methods of ecological inference as for the enacted map. Appendix Figures 33 and 34 depict the Illustrative State Senate maps, with the districts I have been instructed to focus upon highlighted.

73. I have been instructed to examine RPV for Black versus White voters in Illustrative Map 1 SDs 16, 17, 25, 28 and 40. I have been instructed to examine RPV for Black and Hispanic versus White voters in Illustrative Map 2 SDs 16 and 23.

74. Figure 26 reports the EI results for Illustrative State Senate Map 1, and Figure 27 reports the results for Illustrative State Senate Map 2.

75. For Map 1, I observe evidence of RPV between Black and White voters across all past statewide elections with a minority candidate running for SDs 16, 17, 25 and 28. In Illustrative Map 1 SD 40, I observe RPV 50% of the time in elections where a minority candidate ran. Furthermore, I observe evidence of RPV between Black and White voters in a majority (though not all) of elections with a minority-preferred candidate running.

76. For Map 2, I observe evidence of RPV with Black and Hispanic voters supporting minority candidates and White voters opposing them across all past statewide elections with a minority candidate running. When a minority candidate does not run, Black and Hispanic voters support the same minority-preferred candidate and White voters oppose this candidate.

Figure 26: Ecological Inference Results — Illustrative Map 1 State Senate Districts (Historical Elections, Two-Party Vote Shares)

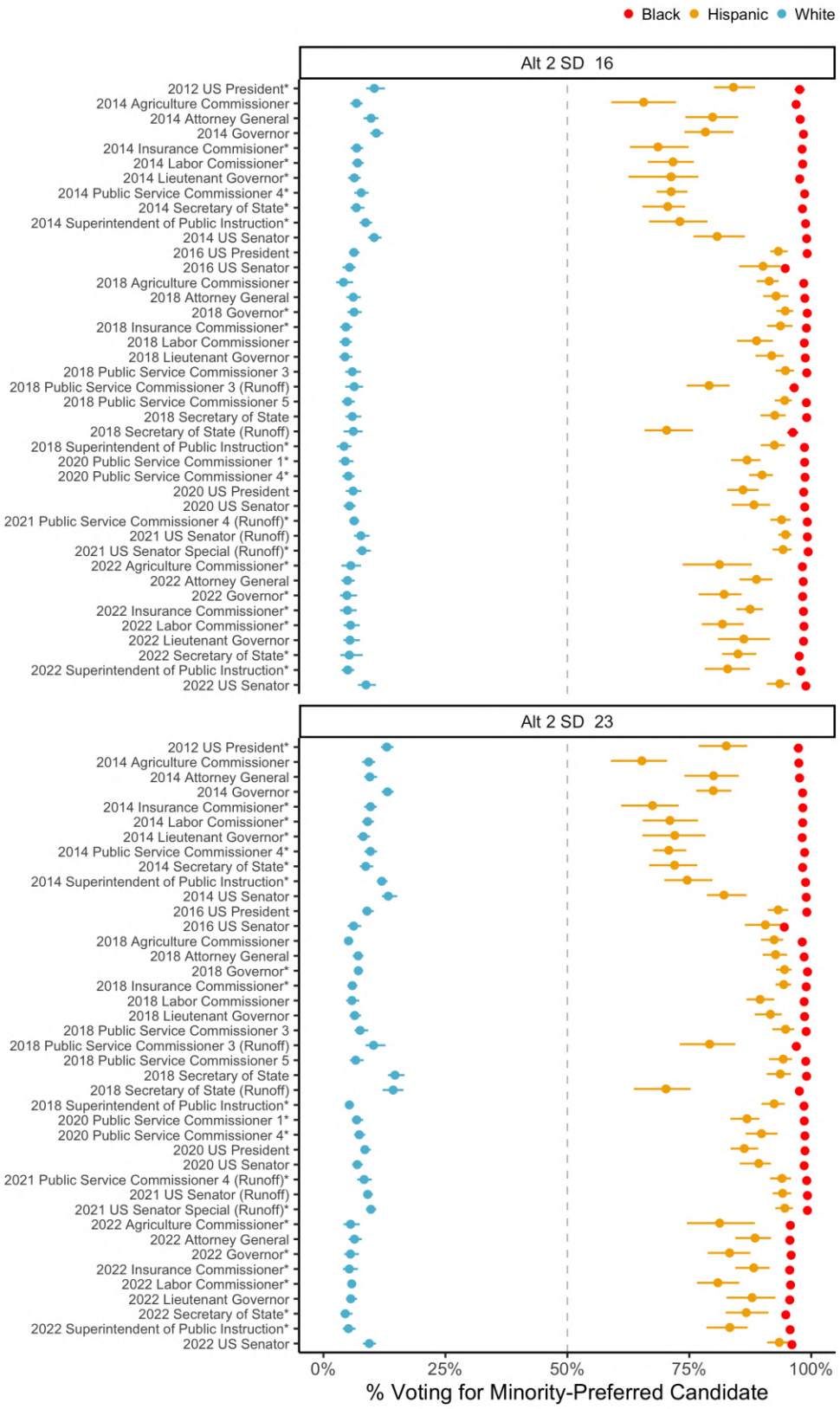

Figure 27: Ecological Inference Results — Illustrative Map 2 State Senate Districts (Historical Elections, Two-Party Vote Shares)

State House Districts

77. I also consider two Illustrative Maps of alternative State House Districts, and I apply the same methods of ecological inference as I did for the enacted map. Appendix Figures 35 and 36 depict the Illustrative State House maps, with the districts I have been instructed to focus upon highlighted.

78. I have been instructed to examine RPV for Black versus White voters in Illustrative Map 1 LDs 64, 74, 117, 144, 151 and 171 and for Black, Hispanic and White voters in Illustrative Map 1 LD 161. For Illustrative Map 2, I have been instructed to examine RPV for Black versus White voters in LDs 64, 117 and 144 and for Black, Hispanic and White voters in LD 161.

79. Figure 28 reports the results for Illustrative State House Map 1, and Figure 29 reports the results for Illustrative State House Map 2.

80. For Illustrative Map 1, I observe evidence of RPV between Black and White voters in all districts I have been asked to examine. Furthermore, in Illustrative Map 1 LD 161, where I also examine the behavior of Hispanic voters, I again observe RPV with Black and Hispanic voters supporting minority candidates and White voters opposing them.

81. For Illustrative Map 2, I again observe evidence of RPV between Black and White voters in all districts I examine. In LD 64, this occurs in every election. In LD 117, occasionally the confidence intervals on the estimates are wide enough to cross the 50% threshold but nonetheless, but even accounting for this Black voters support a minority candidate and White voters oppose them

in 95% of these elections. Similarly, in LD 144, Black voters support a minority candidate and White voters oppose them (with the confidence intervals on the estimates not overlapping with the 50% threshold) in 95% of such elections. Finally, in SD 161, I observe RPV with Black and Hispanic voters supporting a minority or minority-preferred candidate and White voters opposing them in all past elections that I study.

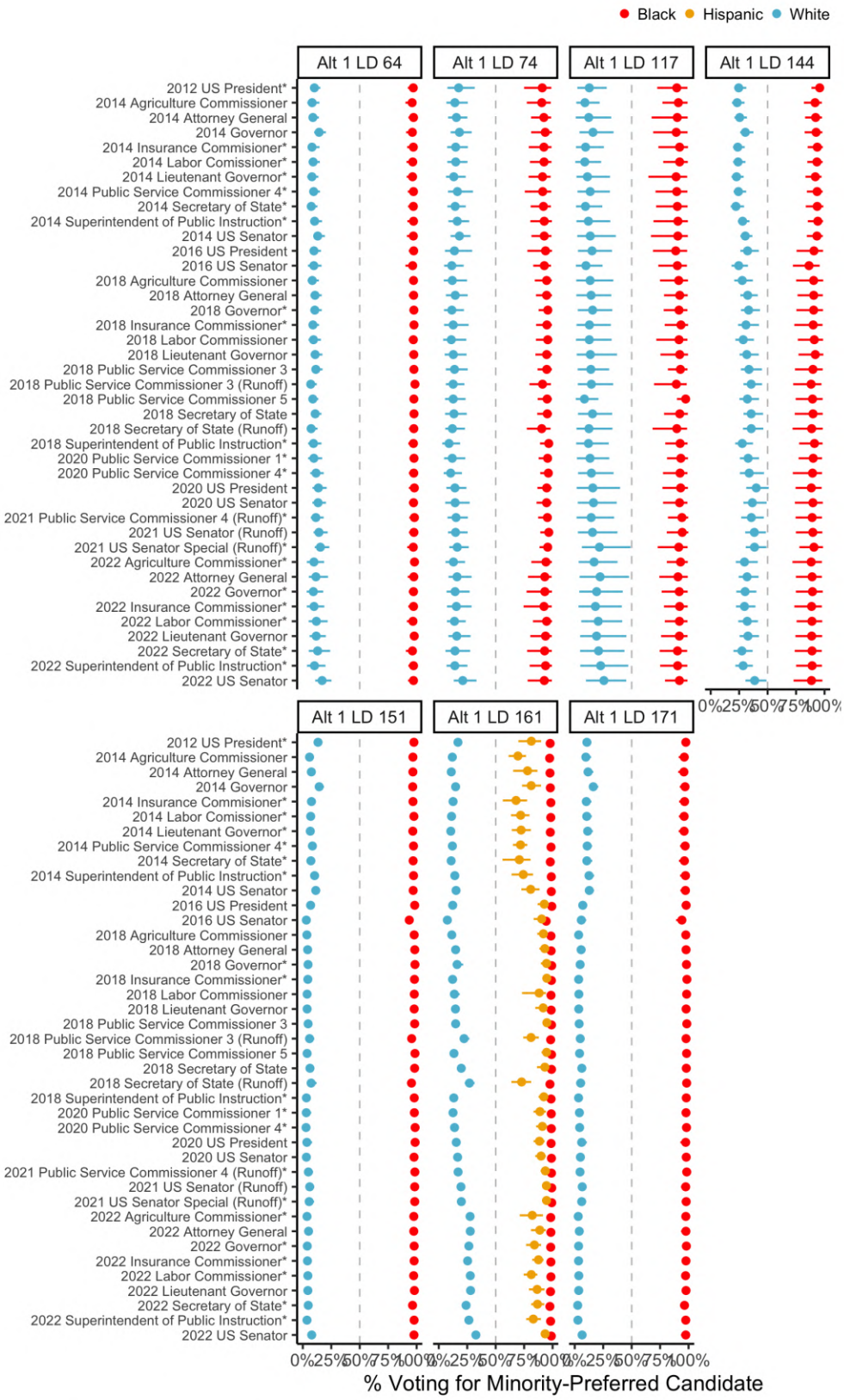

Figure 28: Ecological Inference Results — Illustrative Map 1 State House Districts (Historical Elections, Two-Party Vote Shares)

Figure 29: Ecological Inference Results — Illustrative Map 2 State House Districts (Historical Elections, Two-Party Vote Shares)

Performance Analysis of Illustrative Districts

82. I now turn to a performance analysis of the districts contained in the Illustrative Maps. To examine the performance of minority candidates in the Illustrative Maps, I examine the extent to which minority candidates have earned votes in past elections in the relevant districts. As before, I have determined the average vote share among minority candidates in each district, the minimum vote share earned by a minority candidate, the share of past elections a minority candidate won in each district, and the share of elections the minority candidate won safely (e.g., over 55% of the vote). I again draw upon the 20 statewide elections in which a racial minority candidate ran against a non-minority candidate since 2012. Table 10 in the Appendix denotes these elections with a star and reports the names of these candidates.

Congressional Districts

83. Table 5 presents the 2020 and 2022 share of the electorate for each minority group under consideration, along with the key summary statistics for district-wide electoral performance in the Illustrative congressional map.

84. Compared to the enacted map, there is one major difference and two slight differences. In the Illustrative Map, CD 3, which now reaches from the western part of the state into the Metro Atlanta area, becomes a district that performs in terms of the ability to elect minority candidates of choice. In the previous map, minority candidates never won an election in the district. In the

Illustrative Map, minority candidates now would have earned a majority in all past elections in which they ran.

85. Second, CDs 6 and 7 now provide a slightly stronger ability to elect minority candidates based on past elections. The share of past elections won by a minority candidate increased by 5% in CD 6 and by 15% in CD 7, compared to the enacted map. On the other hand, CDs 2 and 13 become more competitive, with CD 2 in particular now registering a safe victory for minority candidates in only a small share of past elections.

86. Overall, then, the Illustrative Map grants minority voters a very strong chance of electing preferred candidates in four of fourteen congressional districts (CDs 3, 4, 5 and 13). Minority voters still have a good chance of electing minority candidates in CDs 2 and 7, though with CD 2 considerably more competitive than in the enacted congressional map. Finally, based on historical elections, minority voters have a low chance of electing preferred candidates in the remaining congressional districts.

Table 5: Performance Analysis (Elections with a Minority Candidate), Illustrative Map CDs

CD	Black 2020	Black 2022	Hispanic 2020	Hispanic 2022	Mean M Vote	Min M Vote	M Wins	M Over 55%
1	25.8%	24.2%	2.0%	1.6%	42.0%	39.6%	0.0%	0.0%
2	42.6%	35.4%	1.3%	1.0%	50.1%	43.7%	70.0%	5.0%
3	43.9%	46.4%	2.2%	1.7%	58.7%	54.3%	100.0%	95.0%
4	45.0%	42.5%	2.4%	2.2%	80.7%	76.0%	100.0%	100.0%
5	45.2%	44.1%	4.1%	3.2%	71.0%	63.8%	100.0%	100.0%
6	11.1%	10.4%	3.9%	3.3%	42.0%	31.0%	5.0%	0.0%
7	34.8%	33.4%	8.3%	6.0%	57.8%	48.0%	80.0%	65.0%
8	21.5%	21.8%	1.5%	1.0%	30.4%	28.4%	0.0%	0.0%
9	2.8%	4.6%	3.3%	2.5%	19.8%	15.7%	0.0%	0.0%
10	14.0%	13.4%	2.6%	2.1%	30.9%	28.0%	0.0%	0.0%
11	14.0%	13.3%	3.2%	2.8%	34.0%	27.1%	0.0%	0.0%
12	34.8%	30.9%	1.6%	1.3%	44.5%	40.8%	0.0%	0.0%
13	47.2%	45.0%	2.2%	1.7%	56.8%	51.5%	100.0%	65.0%
14	5.5%	6.4%	3.8%	2.5%	23.5%	21.6%	0.0%	0.0%

Note: This table reports the share of the electorate, based on 2020 and 2022 turnout, of each minority racial group in a congressional district from the Illustrative Map along with the mean and minimum minority candidate vote share (labelled M) in the district across statewide elections with a minority candidate since 2012.

State Senate Districts

87. The tables below report the performance of the State Senate districts that I have analyzed under Illustrative Map 1 and 2. In Map 1, minority candidates win all past elections in SDs 16, 25, 28 and 40 and a strong majority of past elections in SDs 17. Several of these districts are relatively competitive, with the minority candidate winning by a narrow margin (e.g., less than 55%) at least a third of the time in SDs 17, 25 and 28.

88. In Map 2, minority candidates win all past elections in SD 16 and a majority of past elections in SD 23. Each district is relatively competitive, with the minority candidate earning less than 55% of the vote share 35% of the time in SD 16 and 80% of the time in SD 23.

89. To sum up, in the Illustrative State Senate Maps, minority-preferred candidates won more than half the time in every district I examine. This performance contrasts with the enacted Senate Districts I have examined, where minority candidates won more than half the time in 67% of districts.

Table 6: Performance Analysis (Elections with a Minority Candidate), Illustrative Map 1 SDs

SD	Black 2020	Black 2022	Hispanic 2020	Hispanic 2022	Mean M Vote	Min M Vote	M Wins	M Over 55%
16	45.2%	46.6%	1.9%	1.7%	56.4%	52.3%	100.0%	75.0%
17	44.1%	45.3%	2.6%	2.1%	57.8%	49.3%	90.0%	65.0%
25	43.0%	42.7%	1.3%	0.8%	53.4%	50.9%	100.0%	15.0%
28	43.5%	49.5%	2.3%	1.4%	58.8%	51.9%	100.0%	65.0%
40	49.4%	46.9%	3.9%	3.0%	75.6%	69.2%	100.0%	100.0%

Note: This table reports the share of the electorate, based on 2020 and 2022 turnout, of each minority racial group in a given Illustrave Map 1 State Senate district along with the mean and minimum minority candidate vote share (labelled M) in the district across statewide elections with a minority candidate since 2012.

Table 7: Performance Analysis (Elections with a Minority Candidate), Illustrative Map 2 SDs

SD	Black 2020	Black 2022	Hispanic 2020	Hispanic 2022	Mean M Vote	Min M Vote	M Wins	M Over 55%
16	44.1%	45.7%	1.9%	1.8%	55.4%	50.7%	100.0%	65.0%
23	45.7%	40.5%	0.9%	0.8%	52.4%	46.4%	70.0%	20.0%

Note: This table reports the share of the electorate, based on 2020 and 2022 turnout, of each minority racial group in a given Illustrave Map 2 State Senate district along with the mean and minimum minority candidate vote share (labelled M) in the district across statewide elections with a minority candidate since 2012.

State House Districts

90. The tables below report the performance of the State House districts that I have analyzed under Illustrative Map 1 and 2. In Map 1, minority candidates win all past elections in LDs 64, 144 and 161 and a majority of past elections in LDs 74, 117 and 151. Several of these districts are relatively competitive, with the minority candidate winning by a narrow margin (e.g., less than 55%) at least a third of the time in LDs 74, 117, 144 and 151. Finally, LD 171 offers some but by no means an overwhelming chance of electing minority candidates, as in this district minority candidates won 35% of past elections.

91. In Map 2, minority candidates win all past elections in LDs 64, 144 and 161. In LD 117, minority candidates won 35% of past elections.

92. To sum up, in each Illustrative State House Map, minority candidates won more than half the time in every district but one that I examine (86% and 75% of districts, respectively). This performance contrasts with the enacted House Districts I have examined, where minority candidates won more than half the time in 72% of districts.

93. I reserve the right to supplement this report if additional facts, testimony, and/or materials come to light. Pursuant to 28 U.S.C 1746, I declare under penalty of perjury that the foregoing is true and correct. Executed this 13th day of January, 2023 at 11:30pm.

Signature: Ben Schneer

Table 8: Performance Analysis (Elections with a Minority Candidate), Illustrative Map 1 LDs

LD	Black 2020	Black 2022	Hispanic 2020	Hispanic 2022	Mean M Vote	Min M Vote	M Wins	M Over 55%
64	46.7%	51.2%	2.4%	1.8%	60.3%	53.5%	100.0%	80.0%
74	43.9%	36.2%	2.5%	1.9%	52.9%	48.0%	75.0%	35.0%
117	44.9%	50.5%	3.0%	1.8%	55.5%	45.7%	65.0%	60.0%
144	37.7%	33.7%	1.2%	0.9%	53.6%	50.4%	100.0%	30.0%
151	51.8%	35.5%	1.3%	0.6%	51.5%	39.5%	70.0%	45.0%
161	43.0%	36.7%	3.2%	2.9%	62.0%	57.4%	100.0%	100.0%
171	42.1%	39.2%	0.9%	0.5%	48.0%	42.3%	35.0%	0.0%

Note: This table reports the share of the electorate, based on 2020 and 2022 turnout, of each minority racial group in a given State Senate district along with the mean and minimum minority candidate vote share (labelled M) in the district across statewide elections with a minority candidate since 2012.

Table 9: Performance Analysis (Elections with a Minority Candidate), Illustrative Map 2 LDs

LD	Black 2020	Black 2022	Hispanic 2020	Hispanic 2022	Mean M Vote	Min M Vote	M Wins	M Over 55%
64	46.1%	50.5%	2.6%	1.9%	59.8%	53.0%	100.0%	75.0%
117	45.1%	33.6%	2.9%	1.7%	49.3%	42.0%	35.0%	35.0%
144	43.1%	39.5%	1.2%	0.9%	58.2%	54.7%	100.0%	95.0%
161	42.2%	35.4%	3.0%	2.7%	60.5%	56.2%	100.0%	100.0%

Note: This table reports the share of the electorate, based on 2020 and 2022 turnout, of each minority racial group in a given State Senate district along with the mean and minimum minority candidate vote share (labelled M) in the district across statewide elections with a minority candidate since 2012.

Appendix A

Additional Tables

Table 10: Statewide Minority-Preferred Candidates

Year	Office	Candidate
2020	2020 Public Service Commissioner 1*	Robert Bryant
2020	2020 Public Service Commissioner 4*	Daniel Blackman
2020	2020 US President	Joe Biden
2020	2020 US Senator	Jon Ossof
2021	2021 Public Service Commissioner 4 (Runoff)*	Daniel Blackman
2021	2021 US Senator (Runoff)	Raphael Warnock
2021	2021 US Senator Special (Runoff)*	Raphael Warnock
2022	2022 US Senator	Raphael Warnock
2022	2022 Governor*	Stacey Abrams
2022	2022 Lieutenant Governor	Charlie Bailey
2022	2022 Secretary of State*	Bee Nguyen
2022	2022 Attorney General	Jen Jordan
2022	2022 Agriculture Commissioner*	Nakita Hemingway
2022	2022 Insurance Commissioner*	Janice Laws Robinson
2022	2022 Labor Commissioner*	William Boddie
2022	2022 Superintendent of Public Instruction*	Alisha Searcy

Note: This table reports the overall minority-preferred candidate based on statewide ecological estimates for the elections considered in this report. A star denotes those offices where a minority candidate is preferred to a non-minority candidate by minority voters statewide.

Table 11: Statewide Minority-Preferred Candidates, Continued

Year	Office	Candidate
2012	2012 US President*	Barack Obama
2014	2014 Agriculture Commissioner	Christopher Irvin
2014	2014 Attorney General	Greg Hecht
2014	2014 Governor	Jason Carter
2014	2014 Insurance Commisioner*	Liz Johnson
2014	2014 Labor Comissioner*	Robbin Shipp
2014	2014 Lieutenant Governor*	Connie Stokes
2014	2014 Public Service Commissioner 4*	Daniel Blackman
2014	2014 Superintendent of Public Instruction*	Valarie Wilson
2014	2014 Secretary of State*	Doreen Carter
2014	2014 US Senator	Michelle Nunn
2016	2016 US President	Hilary Clinton
2016	2016 US Senator	Jim Barksdale
2018	2018 Agriculture Commissioner	Fred Swann
2018	2018 Attorney General	Charlie Bailey
2018	2018 Governor*	Stacey Abrams
2018	2018 Insurance Commissioner*	Janice Laws Robinson
2018	2018 Labor Commissioner	Richard Keatley
2018	2018 Lieutenant Governor	Sarah Riggs Amico
2018	2018 Public Service Commissioner 3	Lindy Miller
2018	2018 Public Service Commissioner 3 (Runoff)	Lindy Miller
2018	2018 Public Service Commissioner 5	Dawn Rudolph
2018	2018 Superintendent of Public Instruction*	Otha Thornton
2018	2018 Secretary of State	John Barrow
2018	2018 Secretary of State (Runoff)	John Barrow

Note: This table reports the overall minority-preferred candidate based on statewide ecological estimates for the elections considered in this report. A star denotes those offices where a minority candidate is preferred to a non-minority candidate by minority voters statewide.

Additional Maps: Clusters

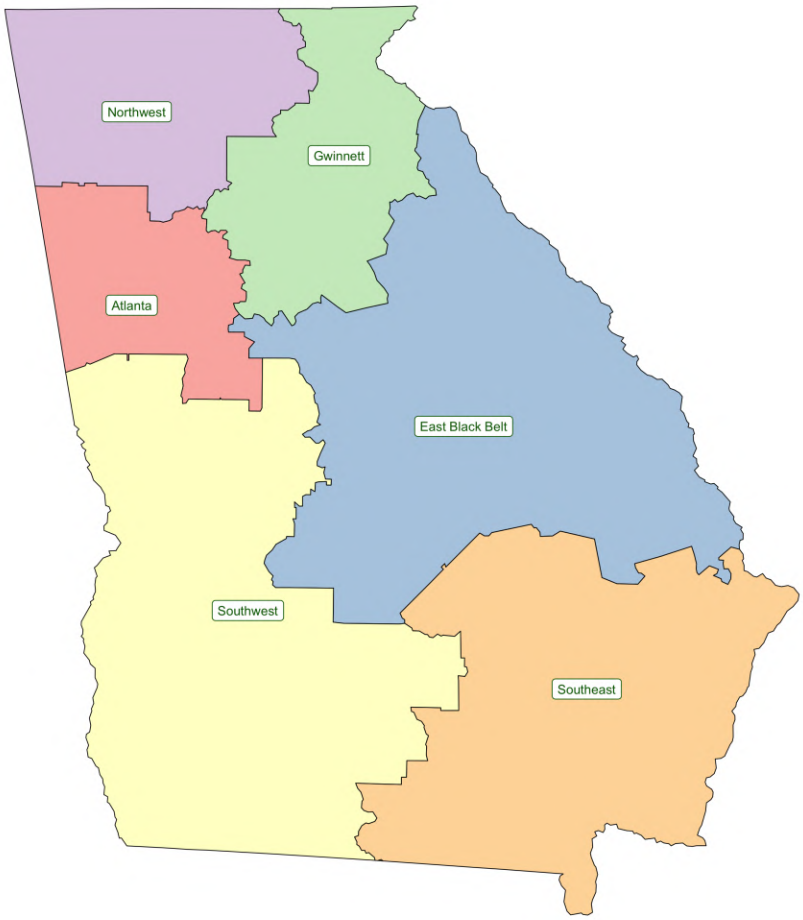

Figure 30: Map of State Senate Clusters

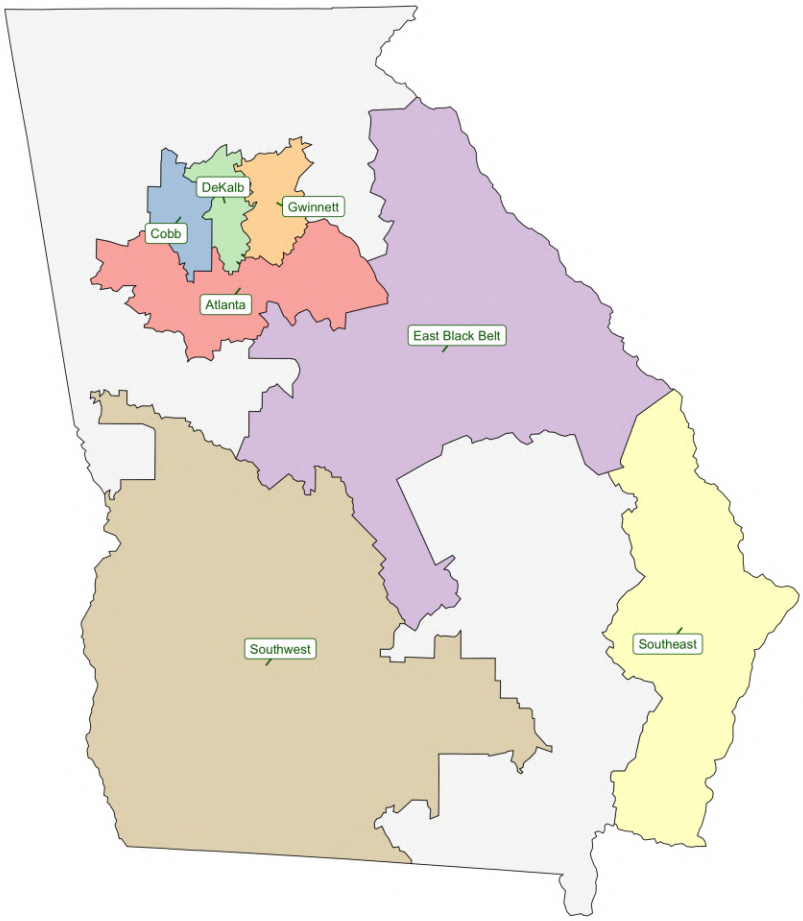

Figure 31: Map of State House Clusters

Additional Maps: Illustrative Congressional Districts

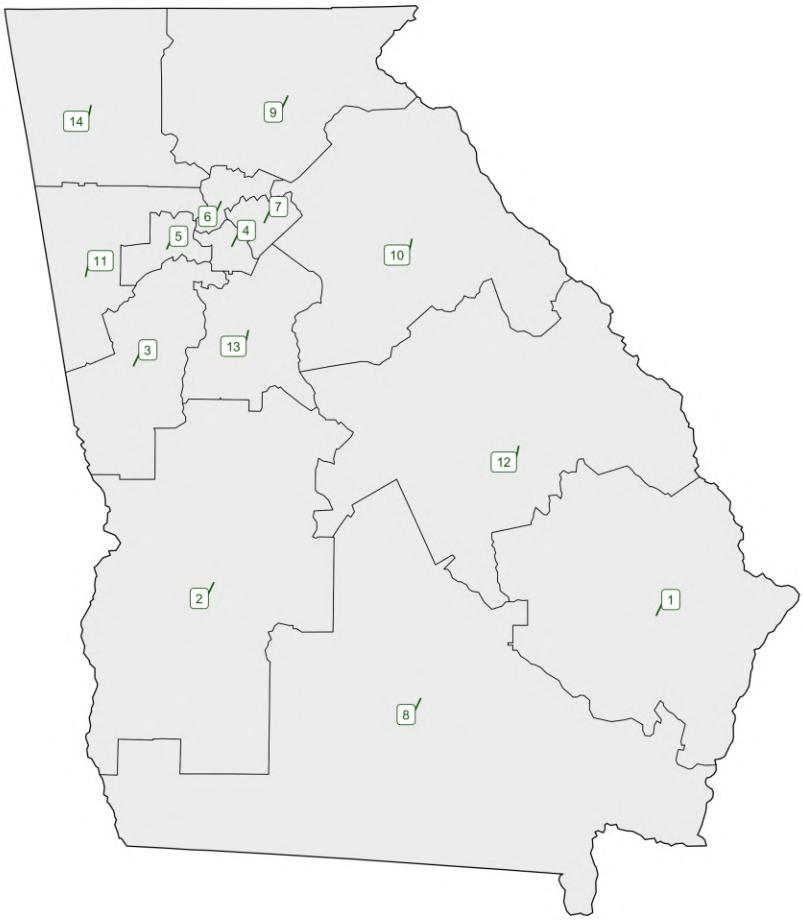

Figure 32: Map 1 of Illustrative State Senate Districts

Additional Maps: Illustrative State Senate Districts

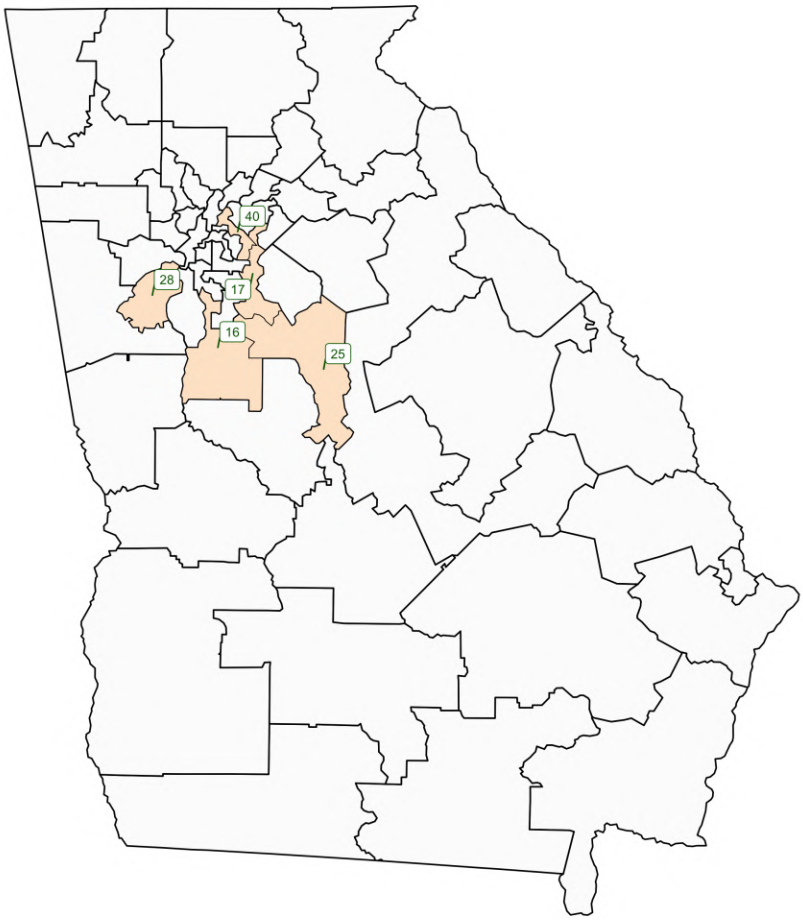

Figure 33: Map 1 of Illustrative State Senate Districts

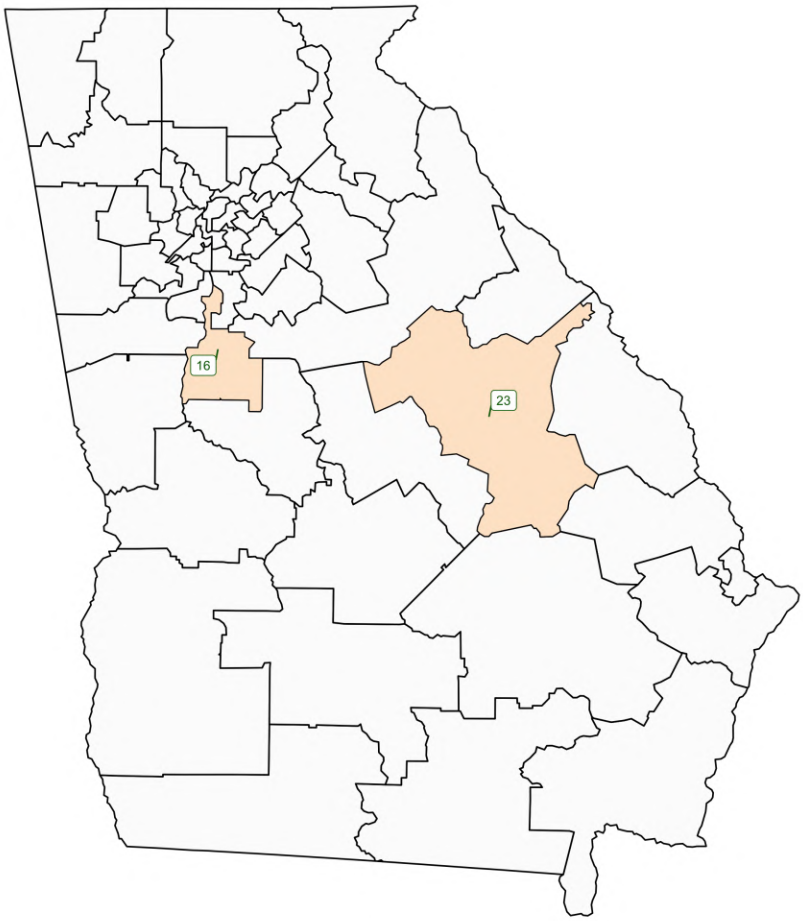

Figure 34: Map 2 of Illustrative State Senate Districts

Additional Maps: Illustrative State House Districts

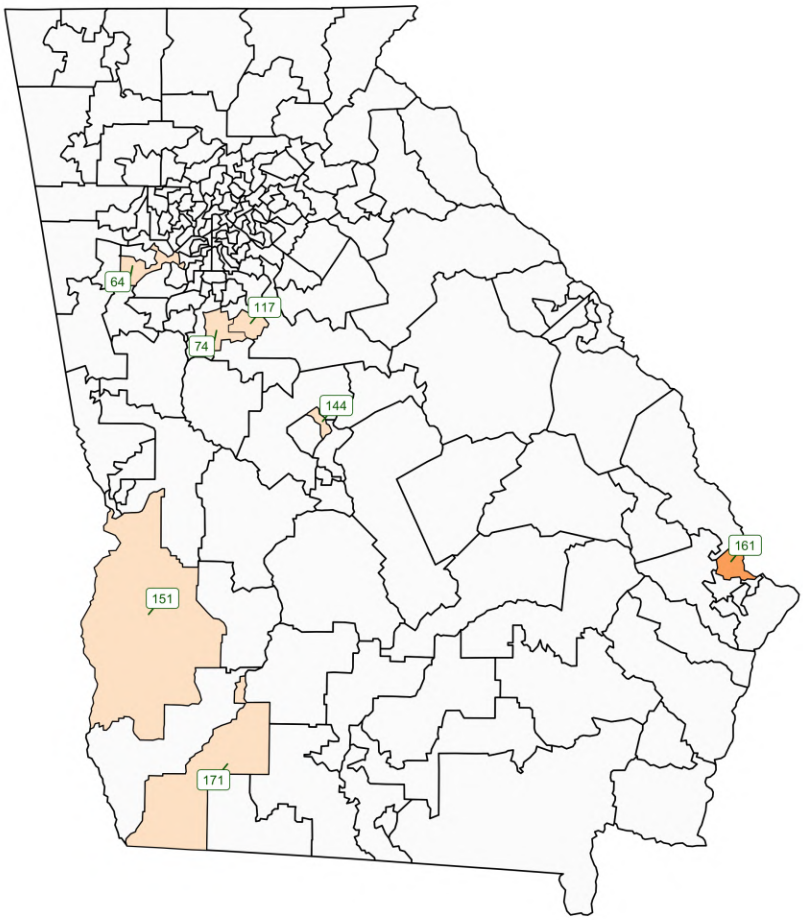

Figure 35: Map 1 of Illustrative State House Districts

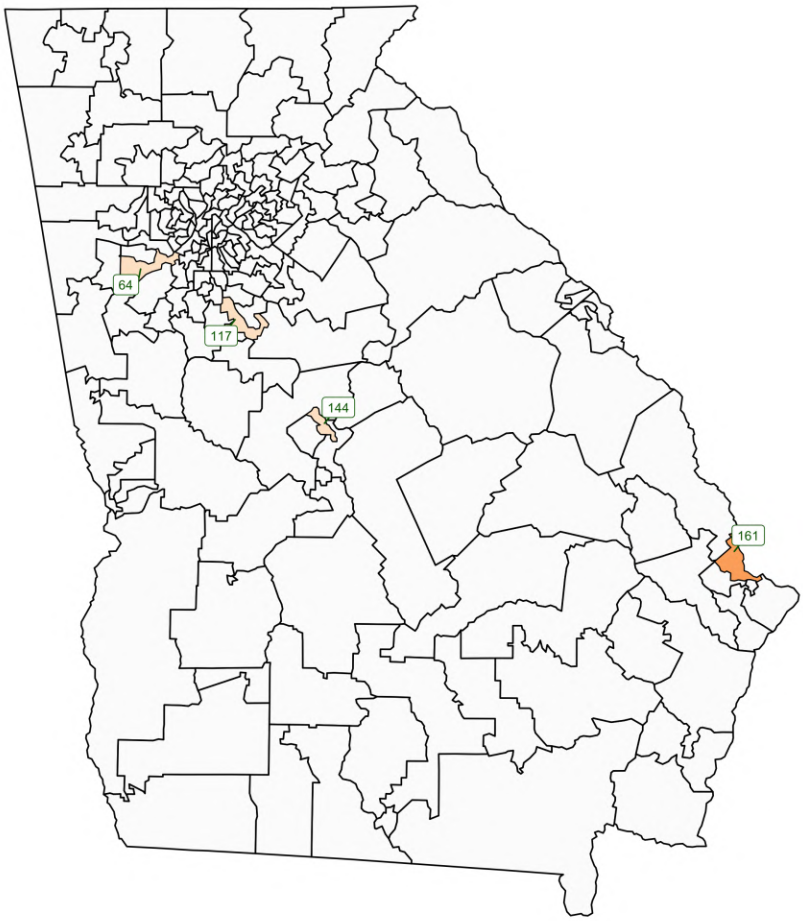

Figure 36: Map 2 of Illustrative State House Districts

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Academic Employment

Harvard Kennedy School

Assistant Professor of Public Policy, 2018–Present.

Florida State University

Assistant Professor of Political Science, 2016–2018.

Education

Ph.D. Political Science, Harvard University, 2016.

Committee: Gary King, Daniel Carpenter, Stephen Ansolabehere

M.A. Political Science, Harvard University, 2012.

M.A. Economics, Stanford University, 2010.

B.A. Economics & History, *Summa Cum Laude*, Columbia University, 2005.

Research Interests

Political Communication, Elections, Congress, Politics and History, Redistricting

Publications

"The Popular Origins of Legislative Jurisdictions: Petitions and Standing Committee Formation in Revolutionary Virginia and the Early U.S. House" (with Tobias Resch, Maggie McKinley, and Daniel Carpenter). 2022. *Journal of Politics* 84 (3): 1727–1745.

"Partisan Alignment Increases Voter Turnout: Evidence from Redistricting" (with Bernard Fraga and Daniel J. Moskowitz). 2022. *Political Behavior* 44: 1883–1910.

"Congressional Representation by Petition: Assessing the Voices of the Voteless in a Comprehensive New Database, 1789-1949" (with Maggie Blackhawk, Tobias Resch, and Daniel Carpenter). 2021. *Legislative Studies Quarterly* 46 (3): 817–849.

"From the Halls of Congress to K Street: Government Experience and Its Value for Lobbying" (with Pamela Ban and Maxwell Palmer). 2019. *Legislative Studies Quarterly* 44 (4): 713–752.

"Reevaluating Competition and Turnout in U.S. House Elections" (with Daniel J. Moskowitz). 2019. *Quarterly Journal of Political Science* 14: 191-223.

"Postpolitical Careers: How Politicians Capitalize on Public Office" (with Maxwell Palmer). 2019. *Journal of Politics* 81 (2): 670-675.

"Suffrage Petitioning as Formative Practice: American Women Presage and Prepare for the Vote, 1840-1940" (with Daniel Carpenter, Zachary Popp, Tobias Resch, and Nicole Topich). 2018. *Studies in American Political Development* 32 (1): 24–48.

"Paths of Recruitment: Rational Social Prospecting in Petition Canvassing" (with Clayton Nall and Daniel Carpenter). 2018. *American Journal of Political Science* 62 (2): 192–209.

"Divided Government and Significant Legislation: A History of Congress from 1789–2010" (with Stephen Ansolabehere and Maxwell Palmer). 2018. *Social Science History* 42 (1): 81–108.

"How the News Media Activate Public Expression and Influence National Agendas" (with Gary King and Ariel White). 2017. *Science* 358 (6364): 776–780.

"Capitol Gains: The Returns to Elected Office from Corporate Board Directorships" (with Maxwell Palmer). 2016. *Journal of Politics* 78 (1): 181–196.

"What Has Congress Done?" (with Stephen Ansolabehere and Maxwell Palmer). 2016. *Governing in a Polarized Age: Elections, Parties, and Political Representation in America*, eds. Alan S. Gerber and Eric Schickler. New York: Cambridge University Press.

"Party Formation Through Petitions: The Whigs and the Bank War of 1832–1834" (with Daniel Carpenter). 2015. *Studies in American Political Development* 29 (2): 1–22.

Working Papers

"'Descended from Immigrants and Revolutionists': How Immigrant Background Shapes Legislative Behavior in Congress" (with James Feigenbaum and Maxwell Palmer). HKS Working Paper No. RWP19-028. *Under Revision*.

"When the Going Gets Tough, Members Go Home: Electoral Threat and Legislator Behavior in the U.S. Congress" (with Jaclyn Kaslovsky and Daniel J. Moskowitz).

"Why Party Leaders Tend to Be Extremists" (with David C. King and Richard Zeckhauser). HKS Working Paper No. RWP20-015.

"Policy Consequences of Civil Society: Evidence from German-American Counter-Mobilization to Prohibition" (with Tobias Reisch).

"A Partisan Solution to Partisan Gerrymandering: The Define-Combine Procedure" (with Maxwell Palmer and Kevin DeLuca). HKS Working Paper No. RWP22-012.

"Direct Election and Political Representation: Evidence from Congressional Petitioning."

"Bayesian Instrumental Variables Estimation with Relaxations of the Exclusion Restriction" (with Michael Gill and Arman Sabbaghi).

Current Projects

"Paywalls" (with Desmond Ang and Avinash Moorthy).

"Permanent Minority Rule? Uncovering the Limits of Partisan Gerrymandering" (with Maxwell Palmer).

"Coattail Effects and Candidate Quality" (with Kevin DeLuca and Dan Moskowitz).

"Misperceptions of Life Expectancy" (with Desmond Ang).

Reports, Other Publications and Selected Media

"Racially Polarized Voting Analysis for the Virginia Redistricting Commission" (with Maxwell Palmer). August 31, 2021.

"Drawing a Line." *Harvard Kennedy School Magazine*. Winter 2020.

"Review of Evaluating Media Bias, by Adam J. Schiffer." 2020. *American Review of Politics* 37 (1): 106–8.

"Drawing the Line on Gerrymandering." *HKS PolicyCast (Podcast)*, December 10, 2019.

"The Arizona Redistricting Commission: One State's Model for Gerrymandering Reform" (with Colleen Mathis and Daniel J. Moskowitz). *Ash Center Policy Brief*, 2019.

"Are Divided Governments the Cause of Delays and Shutdowns?" *The Science of Politics (Podcast)*, January 2, 2019.

"Canvassers Tend to Seek Out Supporters Who Are Like Themselves, and That's Not Good for Political Participation" (with Daniel Carpenter and Clayton Nall). *LSE USAPP Blog*, November 1, 2017.

"How and Why Retired Politicians Get Lucrative Appointments on Corporate Boards" (with Maxwell Palmer). *The Washington Post (Monkey Cage)*, February 1, 2015.

"An Analysis of the Arizona Independent Redistricting Commission Congressional District Map" (with Gary King). *Submitted to Department of Justice*, 2012.

"An Analysis of the Arizona Independent Redistricting Commission Legislative District Map" (with Gary King). *Submitted to Department of Justice*, 2012.

Conferences & Presentations

2022: Georgia State University (Economics), HKS Faculty Lunch Seminar, Harris School (University of Chicago CEG American Politics Conference), APSA

2021: Redistricting Algorithms, Law, and Policy (Radcliffe Institute), Metro Cities Council of the American Chamber of Commerce Executives, APSA

2020: HKS Faculty Lunch Seminar

2019: MPSA, Congress & History

2018: FSU (Colloquium), Congress & History, APSA

2017: Congress & History

2016: PolNet, APSA

2015: The Media Consortium, Boston University (Emerging Media Studies), MPSA, Iowa State, APSA, Harvard (Grad PE, APRW)

2014: SPSA, Texas A&M, The Media Consortium, Radcliffe (The Petition in North America), MPSA, Harvard (APRW x2, Grad PE, PE), NYU (Alexander Hamilton Center for Political Economy), PolMeth (Poster Session), APSA, Tobin Project

2013: Harvard (Grad PE), MPSA, The Media Consortium

2012: Harvard (APRW)

2011: Harvard (APRW)

Teaching

API 202: Empirical Methods II, Harvard Kennedy School, Spring 2022 & Spring 2023.

DPI 610: Data Science for Politics, Harvard Kennedy School, Spring 2020 & Spring 2021.

DPI 308: Translating Public Opinion into Policy Action, Harvard Kennedy School, Spring 2019, Fall 2020 & Spring 2021.

Forecasting Elections in 2020 (Summer Engagement Session), Harvard Kennedy School, Summer 2020.

POS 3263: Political Elites and Representation, Florida State University, Spring 2018.

POS 4424: Legislative Systems, Florida State University, Spring 2017, Fall 2017 & Spring 2018.

POS 5427: Legislative Politics, Florida State University, Spring 2017.

POS 5045: National Government (American Politics Core), Florida State University, Fall 2017.

Gov 30: American Government, Professor Paul E. Peterson, Harvard University, Fall 2013 (TF).

Gov 1300: The Politics of Congress, Professor Stephen Ansolabehere, Harvard University, Spring 2013 (TF).

Gov 1359: The Road to the White House, Carlos Diaz Rosillo, Harvard University, Fall 2012 (TF).

Econ 101: Economic Policy Analysis, Anamaria Pieschacon, Stanford University, Fall 2009 & Winter 2010 (TA).

Past Employment

Research Assistant, Professor Gary King, Harvard University, 2011–2016.

Research Assistant, Professor Daniel Carpenter, Harvard University, 2011–2014.

Research Assistant, Professor Gavin Wright, Stanford University, 2008–2009.

Research Analyst, LECG LLC, 2006–2007.

Research Fellow, Professor Alison Morantz, Stanford Law School 2005–2006, 2010.

Fellowships & Awards

American Journal of Political Science Best Paper Award (co-winner) for "Paths of Recruitment: Rational Social Prospecting in Petition Canvassing," 2018.

Summer Institute, Center for Advanced Study in the Behavioral Sciences, 2017.

First Year Assistant Professor Grant, Florida State University, 2017.

Richard J. Herrnstein Prize, awarded by the Harvard Graduate School of Arts and Sciences for "a dissertation that exhibits excellent scholarship, originality and breadth of thought, and a commitment to intellectual independence," 2016.

GSAS Dissertation Completion Fellowship, Harvard University, 2015–2016.

Term Time Merit Fellowship, Graduate Society, Harvard University, 2014–2015.

Dissertation Research Fellowship for Study of the American Republic, Center for American Political Studies, Harvard University, 2014–2015.

Jeanne Humphrey Block Dissertation Award, Institute for Quantitative Social Sciences, Harvard University, 2014–2015.

Graduate Research Grant, Institute for Quantitative Social Sciences, Harvard University, 2014–2015.

Fellow, Democracy & Markets, Tobin Project, 2014–2015.

Graduate Fellowship, Harvard University, 2010–2016.

NSF Travel Grant, Annual Conference of the Society for Political Methodology, 2014

Travel Grant, Institute for Quantitative Social Science, Harvard University, 2013, 2014, 2015.

Outstanding Teaching Assistant, Stanford University, 2009–2010.

Phi Beta Kappa, 2005.

Dean's List, Columbia University, 2001–2005.

Other

Affiliations

Taubman Center for State and Local Government, Harvard Kennedy School

Ash Center for Democratic Governance and Innovation, Harvard Kennedy School

Institute for Quantitative Social Science, Harvard University

Center for American Political Studies (CAPS), Harvard University

Multidisciplinary Program in Inequality and Social Policy, Harvard University

Political Analysis Track, Ph.D. Program in Health Policy, Harvard University

Service

Co-Organizer, American Politics Speaker Series, Harvard Kennedy School and Department of Government, 2019–Present.

DPI Junior American Politics Search Committee, Harvard Kennedy School, 2019–2020.

Host, Faculty Research Seminar, Harvard Kennedy School, 2019, 2021.

MPP Admissions Committee, Harvard Kennedy School, 2018–2019.

PhD Admissions Committee, Institutions and Politics Track, Harvard Kennedy School, 2021–2022.

Selected Consulting

Virginia Redistricting Commission (Voter Polarization Analysis, 2020s Redistricting Cycle)

Arizona Independent Redistricting Commission (2010s Redistricting Cycle)

New York Civil Liberties Union (*Hurrell-Harring et al. v. the State of New York*)

Other Projects/Cases: Illinois State Legislature (Redistricting), Texas (Voter ID)

Software Packages

R, Stata, SAS, Python, ArcGIS, LaTeX.

Exhibit
0003

EXPERT REPORT OF JOHN R. ALFORD, Ph.D.

Scope of Inquiry

I have been retained by the Georgia Secretary of State and State Election Board as an expert to provide analysis related to *Grant v. Raffensperger*, *Alpha Phi Alpha v. Raffensperger*, and *Pendergrass v. Raffensperger*. All three cases allege the current U.S. Congressional, state Senate, and state House districts in Georgia violate Section 2 of the Voting Rights Act. In early 2022, I provided a report and testified in the preliminary injunction hearing in those matters. I have provided a report in those cases dated 2/6/2023 that was responsive to the reports and supplemental reports provided by plaintiffs' experts Dr. Maxwell Palmer, and Dr. Lisa Handley. The previous report, including my analysis of primary voting relevant to this case, is attached as Appendix 2. In this report I will supplement that report with additional consideration of the report provided by Dr. Benjamin Schneer dated 1/13/2023 in *Ga. NAACP* and *Common Cause* cases. My rate of compensation in this matter is $500 per hour.

Qualifications

I am a tenured full professor of political science at Rice University. At Rice, I have taught courses on redistricting, elections, political representation, voting behavior and statistical methods at both the undergraduate and graduate level. Over the last thirty years, I have worked with numerous local governments on districting plans and on Voting Rights Act issues. I have previously provided expert reports and/or testified as an expert witness in voting rights and statistical issues in a variety of court cases, including on behalf of the U.S. Attorney in Houston, Texas, the Texas Attorney General, a U.S. Congressman, and various cities and school districts.

In the 2000 round of redistricting, I was retained as an expert to provide advice to the Texas Attorney General in his role as Chair of the Legislative Redistricting Board. I subsequently served as the expert for the State of Texas in the state and federal litigation involving the 2001 redistricting for U.S. Congress, the Texas Senate, the Texas House of Representatives, and the Texas State Board of Education. In the 2010 round of redistricting in Texas, I was again retained as an expert by the State of Texas to assist in defending various state election maps and systems including the district maps for the U.S. Congress, the Texas Senate, the Texas House of Representatives, and the current at large system for electing Justices to the State Supreme Court

and Court of Appeals, as well as the winner-take-all system for allocating Electoral College votes.

I have also worked as an expert on redistricting and voting rights cases at the state and/or local level in Alabama, Arkansas, Florida, Georgia, Kansas, Louisiana, Michigan, Mississippi, New Mexico, New York, Pennsylvania, Washington, and Wisconsin. The details of my academic background, including all publications in the last ten years, and work as an expert, including all cases in which I have testified by deposition or at trial in the last four years, are covered in the attached CV (Appendix 1).

Data and Sources

In preparing this report, I have reviewed the reports filed by the Dr. Schneer in this case. I have also reviewed various election and demographic data provided by Dr. Schneer in his disclosures related to his report in this case.

Dr. Schneer's Report

In his report dated 2/13/2023, Dr. Schneer provides the results of a set of Ecological Inference ("EI") election analyses that he used to assess Racially Polarized Voting (RPV) in 41 two-party contested general election contests between 2012 and 2022. He notes that 21 of these contests (indicated by an asterisk next to the contest label) include a minority candidate running against a non-minority candidate. He considers these contests to be the most probative. The remaining 20 contests feature candidates that are the same race. He reports results for the estimated voting preferences in all 41 of these contests within a variety of geographic contexts for Black, white, and sometimes Hispanic voters. As his list of the 21 minority candidates on pages 13-14 shows, all 21 are running as Democrats, and in his broader set of 41 election contests, the preferred candidate of Black voters is always the Democrat.

Dr. Schneer acknowledges that the race of the candidates provides important information about racially polarized voting. He notes, "[w]hile I estimate RPV results for all statewide general elections since 2012, I rely on those elections in which a minority candidate was one of the two major party candidates running for office as most probative for making inferences about racially polarized voting" (page 13). In his associated footnote 18 on page 13, he states that an "election between a minority and a non-minority candidate provides variation in the race of the candidate

and therefore offers a test of whether race might matter in vote choice among different voter groups." He goes on to say that he also includes "elections in which no minority candidate ran or two minority candidates ran as major party candidates. These are useful for establishing a general pattern of vote choice for different racial groups, even if elections with a single minority candidate are most probative for determining the extent of RPV" (page 14).

However, despite having recognized the potential value this data identified in his reports and the associated opportunity analyze it, there is no discussion of the impact, if any, that the race of the candidate has on the behavior of Black, white, or Hispanic voters in any of these contests. Consider the patterns evident in Dr. Schneer's Figure 1. In all 41 of the 41 election contests examined, minorities show cohesive voting for the Democratic candidate. In contrast, White voters cohesively favor the Republican candidate. Clearly the partisan label of a candidate matters, as there is only minimal variation in the estimated vote shares across ten years and 41 elections ranging from top-of-the-ballot Presidential contests to down ballot contests like Public Service Commissioner.

The key question is whether the variation in the race of the Democratic candidate matters to either minority or white voters. As noted above, Dr. Schneer acknowledges that "variation in the race of the candidate … offers a test of whether race might matter in vote choice among different voter groups" (page 13). Here we have that variation across Democratic candidates as roughly half are minorities running against white candidates, and the other half are not. A look at any of the 17 figures relating to the various geographies examined in Dr. Schneer's report makes it clear that the strong support of minority voters for Democratic candidates does not in fact vary to any visible degree[1] on the basis of the race of the candidates. In other words, "variation in the race of the candidate … offers a test of whether race might matter in vote choice among different voter groups," and based on Dr. Schneer's results, there is no indication that race matters in the vote choice among different voter groups. This is exactly the same result illustrated in my discussion of the pattern of general election results presented in the reports of Dr. Handley and Dr. Palmer.

[1] We have to rely on visual comparison here because Dr. Schneer does not provide the numerical point estimates for his EI analysis. However, his analysis is very similar to the analysis of general elections in Dr. Palmer's reports where the numeric estimates are provided, and that numeric comparison is covered in my report in this case dated 2/6/2023.

Dr. Schneer recognizes that the vote patterns don't vary by the race of candidates, and this can be seen throughout his report where he consistently observes the same cohesive voting patterns in elections regardless of whether the election features a minority candidate running against a non-minority candidate, or the election has no minority candidate on the ballot. For example, in reflecting on his Figure 1, Dr. Schneer concludes that: "I estimate that about 96% of Hispanic voters supported Abrams in 2018. Again, the results are generally similar across other elections I examined with minority candidates. When a minority candidate was not one of the two major party candidates, minority voters continued to vote cohesively, supporting particular candidates at overwhelming rates." (Page 15). And again toward the end of his report discussing patterns in his Figure 27, he notes that he observes "evidence of RPV with Black and Hispanic voters supporting minority candidates and White voters opposing them across all past statewide elections with a minority candidate running. When a minority candidate does not run, Black and Hispanic voters support the same minority preferred candidate and white voters oppose this candidate" (page 63).

Summary Conclusions

Dr. Schneer's analysis of voting in general elections is entirely comparable to that of Dr. Palmer and Dr. Handley. All three provide analysis that demonstrates that Black voters provide uniformly high levels of support for Democratic candidates and white voters provide uniformly high levels of support for Republican candidates. Dr. Schneer acknowledges that variation in the race of candidates provides a test of whether race matters to voters, and the large set of elections both he and Dr. Palmer provide, across the ballot and across a decade, nicely happens to divide almost evenly into half that are racially contested and half that are not. The results of this test are clear. The high level of minority voter support for Democratic candidates is not a response to the race of the Democratic or Republican candidates. Similarly, the high level of white voter support for Republican candidates is not a response to the race of the Democratic or Republican candidates.

John R. Alford, Ph.D. February 10, 2023

Appendix 1

CV

John R. Alford

Curriculum Vitae
January 2023

Dept. of Political Science
Rice University - MS-24
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Houston, Texas 77251-1892
713-348-3364
jra@rice.edu

Employment:

Professor, Rice University, 2015 to present.
Associate Professor, Rice University, 1985-2015.
Assistant Professor, University of Georgia, 1981-1985.
Instructor, Oakland University, 1980-1981.
Teaching-Research Fellow, University of Iowa, 1977-1980.
Research Associate, Institute for Urban Studies, Houston, Texas, 1976-1977.

Education:

Ph.D., University of Iowa, Political Science, 1981.
M.A., University of Iowa, Political Science, 1980.
M.P.A., University of Houston, Public Administration, 1977.
B.S., University of Houston, Political Science, 1975.

Books:

Predisposed: Liberals, Conservatives, and the Biology of Political Differences. New York: Routledge, 2013. Co-authors, John R. Hibbing and Kevin B. Smith.

Articles:

"Political Orientations Vary with Detection of Androstenone," with Amanda Friesen, Michael Gruszczynski, and Kevin B. Smith. **Politics and the Life Sciences**. (Spring, 2020).

"Intuitive ethics and political orientations: Testing moral foundations as a theory of political ideology." with Kevin Smith, John Hibbing, Nicholas Martin, and Peter Hatemi. **American Journal of Political Science**. (April, 2017).

"The Genetic and Environmental Foundations of Political, Psychological, Social, and Economic Behaviors: A Panel Study of Twins and Families." with Peter Hatemi, Kevin Smith, and John Hibbing. **Twin Research and Human Genetics**. (May, 2015.)

"Liberals and conservatives: Non-convertible currencies." with John R. Hibbing and Kevin B. Smith. **Behavioral and Brain Sciences** (January, 2015).

"Non-Political Images Evoke Neural Predictors Of Political Ideology." with Woo-Young Ahn, Kenneth T. Kishida, Xiaosi Gu, Terry Lohrenz, Ann Harvey, Kevin Smith, Gideon Yaffe, John Hibbing, Peter Dayan, P. Read Montague. **Current Biology**. (November, 2014).

"Cortisol and Politics: Variance in Voting Behavior is Predicted by Baseline Cortisol Levels." with Jeffrey French, Kevin Smith, Adam Guck, Andrew Birnie, and John Hibbing. **Physiology & Behavior**. (June, 2014).

"Differences in Negativity Bias Underlie Variations in Political Ideology." with Kevin B. Smith and John R. Hibbing. **Behavioral and Brain Sciences**. (June, 2014).

"Negativity bias and political preferences: A response to commentators Response." with Kevin B. Smith and John R. Hibbing. **Behavioral and Brain Sciences**. (June, 2014).

"Genetic and Environmental Transmission of Political Orientations." with Carolyn L. Funk, Matthew Hibbing, Kevin B. Smith, Nicholas R. Eaton, Robert F. Krueger, Lindon J. Eaves, John R. Hibbing. **Political Psychology**, (December, 2013).

"Biology, Ideology, and Epistemology: How Do We Know Political Attitudes Are Inherited and Why Should We Care?" with Kevin Smith, Peter K. Hatemi, Lindon J. Eaves, Carolyn Funk, and John R. Hibbing. **American Journal of Political Science**. (January, 2012)

"Disgust Sensitivity and the Neurophysiology of Left-Right Political Orientations." with Kevin Smith, John Hibbing, Douglas Oxley, and Matthew Hibbing, **PlosONE**, (October, 2011).

"Linking Genetics and Political Attitudes: Re-Conceptualizing Political Ideology." with Kevin Smith, John Hibbing, Douglas Oxley, and Matthew Hibbing, **Political Psychology**, (June, 2011).

"The Politics of Mate Choice." with Peter Hatemi, John R. Hibbing, Nicholas Martin and Lindon Eaves, **Journal of Politics**, (March, 2011).

"Not by Twins Alone: Using the Extended Twin Family Design to Investigate the Genetic Basis of Political Beliefs" with Peter Hatemi, John Hibbing, Sarah Medland, Matthew Keller, Kevin Smith, Nicholas Martin, and Lindon Eaves, **American Journal of Political Science**, (July, 2010).

"The Ultimate Source of Political Opinions: Genes and the Environment" with John R. Hibbing in **Understanding Public Opinion**, 3rd Edition eds. Barbara Norrander and Clyde Wilcox, Washington D.C.: CQ Press, (2010).

"Is There a 'Party' in your Genes" with Peter Hatemi, John R. Hibbing, Nicholas Martin and Lindon Eaves, **Political Research Quarterly**, (September, 2009).

"Twin Studies, Molecular Genetics, Politics, and Tolerance: A Response to Beckwith and Morris" with John R. Hibbing and Cary Funk, **Perspectives on Politics**, (December, 2008). This is a solicited response to a critique of our 2005 APSR article "Are Political Orientations Genetically Transmitted?"

"Political Attitudes Vary with Physiological Traits" with Douglas R. Oxley, Kevin B. Smith, Matthew V. Hibbing, Jennifer L. Miller, Mario Scalora, Peter K. Hatemi, and John R. Hibbing, **Science**, (September 19, 2008).

"The New Empirical Biopolitics" with John R. Hibbing, **Annual Review of Political Science**, (June, 2008).

"Beyond Liberals and Conservatives to Political Genotypes and Phenotypes" with John R. Hibbing and Cary Funk, **Perspectives on Politics**, (June, 2008). This is a solicited response to a critique of our 2005 APSR article "Are Political Orientations Genetically Transmitted?"

"Personal, Interpersonal, and Political Temperaments" with John R. Hibbing, **Annals of the American Academy of Political and Social Science**, (November, 2007).

"Is Politics in our Genes?" with John R. Hibbing, **Tidsskriftet Politik**, (February, 2007).

"Biology and Rational Choice" with John R. Hibbing, **The Political Economist**, (Fall, 2005)

"Are Political Orientations Genetically Transmitted?" with John R. Hibbing and Carolyn Funk, **American Political Science Review**, (May, 2005). (The main findings table from this article has been reprinted in two college level text books - Psychology, 9th ed. and Invitation to Psychology 4th ed. both by Wade and Tavris, Prentice Hall, 2007).

"The Origin of Politics: An Evolutionary Theory of Political Behavior" with John R. Hibbing, **Perspectives on Politics**, (December, 2004).

"Accepting Authoritative Decisions: Humans as Wary Cooperators" with John R. Hibbing, **American Journal of Political Science**, (January, 2004).

"Electoral Convergence of the Two Houses of Congress" with John R. Hibbing, in **The Exceptional Senate**, ed. Bruce Oppenheimer, Columbus: Ohio State University Press, (2002).

"We're All in this Together: The Decline of Trust in Government, 1958-1996." in **What is it About Government that Americans Dislike?**, eds. John Hibbing and Beth Theiss-Morse, Cambridge: Cambridge University Press, (2001).

"The 2000 Census and the New Redistricting," **Texas State Bar Association School Law Section Newsletter**, (July, 2000).

"Overdraft: The Political Cost of Congressional Malfeasance" with Holly Teeters, Dan Ward, and Rick Wilson, **Journal of Politics** (August, 1994).

"Personal and Partisan Advantage in U.S. Congressional Elections, 1846-1990" with David W. Brady, in **Congress Reconsidered** 5th edition, eds. Larry Dodd and Bruce Oppenheimer, CQ Press, (1993).

"The 1990 Congressional Election Results and the Fallacy that They Embodied an Anti-Incumbent Mood" with John R. Hibbing, **PS** 25 (June, 1992).

"Constituency Population and Representation in the United States Senate" with John R. Hibbing. **Legislative Studies Quarterly**, (November, 1990).

"Editors' Introduction: Electing the U.S. Senate" with Bruce I. Oppenheimer. **Legislative Studies Quarterly**, (November, 1990).

"Personal and Partisan Advantage in U.S. Congressional Elections, 1846-1990" with David W. Brady, in **Congress Reconsidered** 4th edition, eds. Larry Dodd and Bruce Oppenheimer, CQ Press, (1988). Reprinted in The Congress of the United States, 1789-1989, ed. Joel Silby, Carlson Publishing Inc., (1991), and in The Quest for Office, eds. Wayne and Wilcox, St. Martins Press, (1991).

"Can Government Regulate Fertility? An Assessment of Pro-natalist Policy in Eastern Europe" with Jerome Legge. **The Western Political Quarterly** (December, 1986).

"Partisanship and Voting" with James Campbell, Mary Munro, and Bruce Campbell, in **Research in Micropolitics. Volume 1 - Voting Behavior**. Samuel Long, ed. JAI Press, (1986).

"Economic Conditions and Individual Vote in the Federal Republic of Germany" with Jerome S. Legge. **Journal of Politics** (November, 1984).

"Television Markets and Congressional Elections" with James Campbell and Keith Henry. **Legislative Studies Quarterly** (November, 1984).

"Economic Conditions and the Forgotten Side of Congress: A Foray into U.S. Senate Elections" with John R. Hibbing, **British Journal of Political Science** (October, 1982).

"Increased Incumbency Advantage in the House" with John R. Hibbing, **Journal of Politics** (November, 1981). Reprinted in The Congress of the United States, 1789-1989, Carlson Publishing Inc., (1991).

"The Electoral Impact of Economic Conditions: Who is Held Responsible?" with John R. Hibbing, **American Journal of Political Science** (August, 1981).

"Comment on Increased Incumbency Advantage" with John R. Hibbing, Refereed communication: **American Political Science Review** (March, 1981).

"Can Government Regulate Safety? The Coal Mine Example" with Michael Lewis-Beck, **American Political Science Review** (September, 1980).

Awards and Honors:

CQ Press Award - 1988, honoring the outstanding paper in legislative politics presented at the 1987 Annual Meeting of the American Political Science Association. Awarded for "The Demise of the Upper House and the Rise of the Senate: Electoral Responsiveness in the United States Senate" with John Hibbing.

Research Grants:

National Science Foundation, 2009-2011, "Identifying the Biological Influences on Political Temperaments", with John Hibbing, Kevin Smith, Kim Espy, Nicolas Martin and Read Montague. This is a collaborative project involving Rice, University of Nebraska, Baylor College of Medicine, and Queensland Institute for Medical Research.

National Science Foundation, 2007-2010, "Genes and Politics: Providing the Necessary Data", with John Hibbing, Kevin Smith, and Lindon Eaves. This is a collaborative project involving Rice, University of Nebraska, Virginia Commonwealth University, and the University of Minnesota.

National Science Foundation, 2007-2010, "Investigating the Genetic Basis of Economic Behavior", with John Hibbing and Kevin Smith. This is a collaborative project involving Rice, University of Nebraska, Virginia Commonwealth University, and the Queensland Institute of Medical Research.

Rice University Faculty Initiatives Fund, 2007-2009, "The Biological Substrates of Political Behavior". This is in assistance of a collaborative project involving Rice, Baylor College of Medicine, Queensland Institute of Medical Research, University of Nebraska, Virginia Commonwealth University, and the University of Minnesota.

National Science Foundation, 2004-2006, "Decision-Making on Behalf of Others", with John Hibbing. This is a collaborative project involving Rice and the University of Nebraska.

National Science Foundation, 2001-2002, dissertation grant for Kevin Arceneaux, "Doctoral Dissertation Research in Political Science: Voting Behavior in the Context of U.S. Federalism."

National Science Foundation, 2000-2001, dissertation grant for Stacy Ulbig, "Doctoral Dissertation Research in Political Science: Sub-national Contextual Influences on Political Trust."

National Science Foundation, 1999-2000, dissertation grant for Richard Engstrom, "Doctoral Dissertation Research in Political Science: Electoral District Structure and Political Behavior."

Rice University Research Grant, 1985, Recent Trends in British Parliamentary Elections.

Faculty Research Grants Program, University of Georgia, Summer, 1982. Impact of Media Structure on Congressional Elections, with James Campbell.

Papers Presented:

"The Physiological Basis of Political Temperaments" 6th European Consortium for Political Research General Conference, Reykjavik, Iceland (2011), with Kevin Smith, and John Hibbing.

"Identifying the Biological Influences on Political Temperaments" National Science Foundation Annual Human Social Dynamics Meeting (2010), with John Hibbing, Kimberly Espy, Nicholas Martin, Read Montague, and Kevin B. Smith.

"Political Orientations May Be Related to Detection of the Odor of Androstenone" Annual meeting of the Midwest Political Science Association, Chicago, IL (2010), with Kevin Smith, Amanda Balzer, Michael Gruszczynski, Carly M. Jacobs, and John Hibbing.

"Toward a Modern View of Political Man: Genetic and Environmental Transmission of Political Orientations from Attitude Intensity to Political Participation" Annual meeting of the American Political Science Association, Washington, DC (2010), with Carolyn Funk, Kevin Smith, and John Hibbing.

"Genetic and Environmental Transmission of Political Involvement from Attitude Intensity to Political Participation" Annual meeting of the International Society for Political Psychology, San Francisco, CA (2010), with Carolyn Funk, Kevin Smith, and John Hibbing.

"Are Violations of the EEA Relevant to Political Attitudes and Behaviors?" Annual meeting of the Midwest Political Science Association, Chicago, IL (2010), with Kevin Smith, and John Hibbing.

"The Neural Basis of Representation" Annual meeting of the American Political Science Association, Toronto, Canada (2009), with John Hibbing.

"Genetic and Environmental Transmission of Value Orientations" Annual meeting of the American Political Science Association, Toronto, Canada (2009), with Carolyn Funk, Kevin Smith, Matthew Hibbing, Pete Hatemi, Robert Krueger, Lindon Eaves, and John Hibbing.

"The Genetic Heritability of Political Orientations: A New Twin Study of Political Attitudes" Annual Meeting of the International Society for Political Psychology, Dublin, Ireland (2009), with John Hibbing, Cary Funk, Kevin Smith, and Peter K Hatemi.

"The Heritability of Value Orientations" Annual meeting of the Behavior Genetics Association, Minneapolis, MN (2009), with Kevin Smith, John Hibbing, Carolyn Funk, Robert Krueger, Peter Hatemi, and Lindon Eaves.

"The Ick Factor: Disgust Sensitivity as a Predictor of Political Attitudes" Annual meeting of the Midwest Political Science Association, Chicago, IL (2009), with Kevin Smith, Douglas Oxley Matthew Hibbing, and John Hibbing.

"The Ideological Animal: The Origins and Implications of Ideology" Annual meeting of the American Political Science Association, Boston, MA (2008), with Kevin Smith, Matthew Hibbing, Douglas Oxley, and John Hibbing.

"The Physiological Differences of Liberals and Conservatives" Annual meeting of the Midwest Political Science Association, Chicago, IL (2008), with Kevin Smith, Douglas Oxley, and John Hibbing.

"Looking for Political Genes: The Influence of Serotonin on Political and Social Values" Annual meeting of the Midwest Political Science Association, Chicago, IL (2008), with Peter Hatemi, Sarah Medland, John Hibbing, and Nicholas Martin.

"Not by Twins Alone: Using the Extended Twin Family Design to Investigate the Genetic Basis of Political Beliefs" Annual meeting of the American Political Science Association, Chicago, IL (2007), with Peter Hatemi, John Hibbing, Matthew Keller, Nicholas Martin, Sarah Medland, and Lindon Eaves.

"Factorial Association: A generalization of the Fulker between-within model to the multivariate case" Annual meeting of the Behavior Genetics Association, Amsterdam, The Netherlands (2007), with Sarah Medland, Peter Hatemi, John Hibbing, William Coventry, Nicholas Martin, and Michael Neale.

"Not by Twins Alone: Using the Extended Twin Family Design to Investigate the Genetic Basis of Political Beliefs" Annual meeting of the Midwest Political Science Association, Chicago, IL (2007), with Peter Hatemi, John Hibbing, Nicholas Martin, and Lindon Eaves.

"Getting from Genes to Politics: The Connecting Role of Emotion-Reading Capability" Annual Meeting of the International Society for Political Psychology, Portland, OR, (2007.), with John Hibbing.

"The Neurological Basis of Representative Democracy." Hendricks Conference on Political Behavior, Lincoln, NE (2006), with John Hibbing.

"The Neural Basis of Representative Democracy" Annual meeting of the American Political Science Association, Philadelphia, PA (2006), with John Hibbing.

"How are Political Orientations Genetically Transmitted? A Research Agenda" Annual meeting of the Midwest Political Science Association, Chicago Illinois (2006), with John Hibbing.

"The Politics of Mate Choice" Annual meeting of the Southern Political Science Association, Atlanta, GA (2006), with John Hibbing.

"The Challenge Evolutionary Biology Poses for Rational Choice" Annual meeting of the American Political Science Association, Washington, DC (2005), with John Hibbing and Kevin Smith.

"Decision Making on Behalf of Others" Annual meeting of the American Political Science Association, Washington, DC (2005), with John Hibbing.

"The Source of Political Attitudes and Behavior: Assessing Genetic and Environmental Contributions" Annual meeting of the Midwest Political Science Association, Chicago Illinois (2005), with John Hibbing and Carolyn Funk.

"The Source of Political Attitudes and Behavior: Assessing Genetic and Environmental Contributions" Annual meeting of the American Political Science Association, Chicago Illinois (2004), with John Hibbing and Carolyn Funk.

"Accepting Authoritative Decisions: Humans as Wary Cooperators" Annual Meeting of the Midwest Political Science Association, Chicago, Illinois (2002), with John Hibbing

"Can We Trust the NES Trust Measure?" Annual Meeting of the Midwest Political Science Association, Chicago, Illinois (2001), with Stacy Ulbig.

"The Impact of Organizational Structure on the Production of Social Capital Among Group Members" Annual Meeting of the Southern Political Science Association, Atlanta, Georgia (2000), with Allison Rinden.

"Isolating the Origins of Incumbency Advantage: An Analysis of House Primaries, 1956-1998" Annual Meeting of the Southern Political Science Association, Atlanta, Georgia (2000), with Kevin Arceneaux.

"The Electorally Indistinct Senate," Norman Thomas Conference on Senate Exceptionalism, Vanderbilt University; Nashville, Tennessee; October (1999), with John R. Hibbing.

"Interest Group Participation and Social Capital" Annual Meeting of the Midwest Political Science Association, Chicago, Illinois (1999), with Allison Rinden.

"We're All in this Together: The Decline of Trust in Government, 1958-1996." The Hendricks Symposium, University of Nebraska, Lincoln. (1998)

"Constituency Population and Representation in the United States Senate," Electing the Senate; Houston, Texas; December (1989), with John R. Hibbing.

"The Disparate Electoral Security of House and Senate Incumbents," American Political Science Association Annual Meetings; Atlanta, Georgia; September (1989), with John R. Hibbing.

"Partisan and Incumbent Advantage in House Elections," Annual Meeting of the Southern Political Science Association (1987), with David W. Brady.

"Personal and Party Advantage in U.S. House Elections, 1846-1986" with David W. Brady, 1987 Social Science History Association Meetings.

"The Demise of the Upper House and the Rise of the Senate: Electoral Responsiveness in the United States Senate" with John Hibbing, 1987 Annual Meeting of the American Political Science Association.

"A Comparative Analysis of Economic Voting" with Jerome Legge, 1985 Annual Meeting of the American Political Science Association.

"An Analysis of Economic Conditions and the Individual Vote in Great Britain, 1964-1979" with Jerome Legge, 1985 Annual Meeting of the Western Political Science Association.

"Can Government Regulate Fertility? An Assessment of Pro-natalist Policy in Eastern Europe" with Jerome Legge, 1985 Annual Meeting of the Southwestern Social Science Association.

"Economic Conditions and the Individual Vote in the Federal Republic of Germany" with Jerome S. Legge, 1984 Annual Meeting of the Southern Political Science Association.

"The Conditions Required for Economic Issue Voting" with John R. Hibbing, 1984 Annual Meeting of the Midwest Political Science Association.

"Incumbency Advantage in Senate Elections," 1983 Annual Meeting of the Midwest Political Science Association.

"Television Markets and Congressional Elections: The Impact of Market/District Congruence" with James Campbell and Keith Henry, 1982 Annual Meeting of the Southern Political Science Association.

"Economic Conditions and Senate Elections" with John R. Hibbing, 1982 Annual Meeting of the Midwest Political Science Association. "Pocketbook Voting: Economic Conditions and Individual Level Voting," 1982 Annual Meeting of the American Political Science Association.

"Increased Incumbency Advantage in the House," with John R. Hibbing, 1981 Annual Meeting of the Midwest Political Science Association.

Other Conference Participation:

Roundtable Participant – Closing Round-table on Biopolitics; 2016 UC Merced Conference on Bio-Politics and Political Psychology, Merced, CA.

Roundtable Participant "Genes, Brains, and Core Political Orientations" 2008 Annual Meeting of the Southwestern Political Science Association, Las Vegas.

Roundtable Participant "Politics in the Laboratory" 2007 Annual Meeting of the Southern Political Science Association, New Orleans.

Short Course Lecturer, "What Neuroscience has to Offer Political Science" 2006 Annual Meeting of the American Political Science Association.

Panel chair and discussant, "Neuro-scientific Advances in the Study of Political Science" 2006 Annual Meeting of the American Political Science Association.

Presentation, "The Twin Study Approach to Assessing Genetic Influences on Political Behavior" Rice Conference on New Methods for Understanding Political Behavior, 2005.

Panel discussant, "The Political Consequences of Redistricting," 2002 Annual Meeting of the American Political Science Association.

Panel discussant, "Race and Redistricting," 1999 Annual Meeting of the Midwest Political Science Association.

Invited participant, "Roundtable on Public Dissatisfaction with American Political Institutions", 1998 Annual Meeting of the Southwestern Social Science Association.

Presentation, "Redistricting in the '90s," Texas Economic and Demographic Association, 1997.

Panel chair, "Congressional Elections," 1992 Annual Meeting of the Southern Political Science Association.

Panel discussant, "Incumbency and Congressional Elections," 1992 Annual Meeting of the American Political Science Association.

Panel chair, "Issues in Legislative Elections," 1991 Annual Meeting of the Midwest Political Science Association.

Panel chair, "Economic Attitudes and Public Policy in Europe," 1990 Annual Meeting of the Southern Political Science Association

Panel discussant, "Retrospective Voting in U.S. Elections," 1990 Annual Meeting of the Midwest Political Science Association.

Co-convener, with Bruce Oppenheimer, of Electing the Senate, a national conference on the NES 1988 Senate Election Study. Funded by the Rice Institute for Policy Analysis, the University of Houston Center for Public Policy, and the National Science Foundation, Houston, Texas, December, 1989.

Invited participant, Understanding Congress: A Bicentennial Research Conference, Washington, D.C., February, 1989.

Invited participant--Hendricks Symposium on the United States Senate, University of Nebraska, Lincoln, Nebraska, October, 1988

Invited participant--Conference on the History of Congress, Stanford University, Stanford, California, June, 1988.

Invited participant, "Roundtable on Partisan Realignment in the 1980's", 1987 Annual Meeting of the Southern Political Science Association.

Professional Activities:

Other Universities:

Invited Speaker, Annual Lecture, Psi Kappa -the Psychology Club at Houston Community College, 2018.

Invited Speaker, Annual Allman Family Lecture, Dedman College Interdisciplinary Institute, Southern Methodist University, 2016.

Invited Speaker, Annual Lecture, Psi Sigma Alpha – Political Science Dept., Oklahoma State University, 2015.

Invited Lecturer, Department of Political Science, Vanderbilt University, 2014.

Invited Speaker, Annual Lecture, Psi Kappa -the Psychology Club at Houston Community College, 2014.

Invited Speaker, Graduate Student Colloquium, Department of Political Science, University of New Mexico, 2013.

Invited Keynote Speaker, Political Science Alumni Evening, University of Houston, 2013.

Invited Lecturer, Biology and Politics Masters Seminar (John Geer and David Bader), Department of Political Science and Biology Department, Vanderbilt University, 2010.

Invited Lecturer, Biology and Politics Senior Seminar (John Geer and David Bader), Department of Political Science and Biology Department, Vanderbilt University, 2008.

Visiting Fellow, the Hoover Institution, Stanford University, 2007.

Invited Speaker, Joint Political Psychology Graduate Seminar, University of Minnesota, 2007.

Invited Speaker, Department of Political Science, Vanderbilt University, 2006.

Member:

Editorial Board, Journal of Politics, 2007-2008.

Planning Committee for the National Election Studies' Senate Election Study, 1990-92.

Nominations Committee, Social Science History Association, 1988

Reviewer for:

American Journal of Political Science
American Political Science Review
American Politics Research
American Politics Quarterly
American Psychologist
American Sociological Review
Canadian Journal of Political Science
Comparative Politics
Electoral Studies
Evolution and Human Behavior
International Studies Quarterly

Journal of Politics
Journal of Urban Affairs
Legislative Studies Quarterly
National Science Foundation
PLoS ONE
Policy Studies Review
Political Behavior
Political Communication
Political Psychology
Political Research Quarterly
Public Opinion Quarterly
Science
Security Studies
Social Forces
Social Science Quarterly
Western Political Quarterly

University Service:

Member, University Senate, 2021-2023.

Member, University Parking Committee, 2016-2022.

Member, University Benefits Committee, 2013-2016.

Internship Director for the Department of Political Science, 2004-2018.

Member, University Council, 2012-2013.

Invited Speaker, Rice Classroom Connect, 2016.

Invited Speaker, Glasscock School, 2016.

Invited Speaker, Rice Alumni Association, Austin, 2016.

Invited Speaker, Rice Alumni Association, New York City, 2016.

Invited Speaker, Rice TEDxRiceU , 2013.

Invited Speaker, Rice Alumni Association, Atlanta, 2011.

Lecturer, Advanced Topics in AP Psychology, Rice University AP Summer Institute, 2009.

Scientia Lecture Series: "Politics in Our Genes: The Biology of Ideology" 2008

Invited Speaker, Rice Alumni Association, Seattle, San Francisco and Los Angeles, 2008.

Invited Speaker, Rice Alumni Association, Austin, Chicago and Washington, DC, 2006.

Invited Speaker, Rice Alumni Association, Dallas and New York, 2005.

Director: Rice University Behavioral Research Lab and Social Science Computing Lab, 2005-2006.

University Official Representative to the Inter-university Consortium for Political and Social Research, 1989-2012.

Director: Rice University Social Science Computing Lab, 1989-2004.

Member, Rice University Information Technology Access and Security Committee, 2001-2002

Rice University Committee on Computers, Member, 1988-1992, 1995-1996; Chair, 1996-1998, Co-chair, 1999.

Acting Chairman, Rice Institute for Policy Analysis, 1991-1992.

Divisional Member of the John W. Gardner Dissertation Award Selection Committee, 1998

Social Science Representative to the Educational Sub-committee of the Computer Planning Committee, 1989-1990.

Director of Graduate Admissions, Department of Political Science, Rice University, 1986-1988.

Co-director, Mellon Workshop: Southern Politics, May, 1988.

Guest Lecturer, Mellon Workshop: The U.S. Congress in Historical Perspective, May, 1987 and 1988.

Faculty Associate, Hanszen College, Rice University, 1987-1990.

Director, Political Data Analysis Center, University of Georgia, 1982-1985.

External Consulting:

Expert Witness, Soto Palmer v. Hobbs, (Washington State), racially polarized voting analysis, 2022.

Expert Witness, Pendergrass v. Raffensperger, (Georgia State House and Senate), racially polarized voting analysis, 2022.

Expert Witness, LULAC, et al. v. Abbott, et al., Voto Latino, et al. v. Scott, et al., Mexican American Legislative Caucus, et al. v. Texas, et al., Texas NAACP v. Abbott, et al., Fair Maps Texas, et al. v. Abbott, et al., US v. Texas, et al. (consolidated cases) challenges to Texas Congressional, State Senate, State House, and State Board of Education districting, 2022.

Expert Witness, Robinson/Galmon v. Ardoin, (Louisiana), racially polarized voting analysis, 2022.

Expert Witness, Christian Ministerial Alliance et al v. Arkansas, racially polarized voting analysis, 2022.

Expert Witness, Johnson v. Wisconsin Elections Commission, 2022.

Expert Witness, Rivera, et al. v. Schwab, Alonzo, et al. v. Schwab, Frick, et al. v. Schwab, (consolidated cases) challenge to Kansas congressional map, 2022.

Expert Witness, Grant v. Raffensperger, challenge to Georgia congressional map, 2022

Expert Witness, Brooks et al. v. Abbot, challenge to State Senate District 10, 2022.

Expert Witness, Elizondo v. Spring Branch ISD, 2022.

Expert Witness, Portugal v. Franklin County, et al., challenge to Franklin County, Washington at large County Commissioner's election system, 2022.

Consulting Expert, Gressman Math/Science Petitioners, Pennsylvania Congressional redistricting, 2022.

Consultant, Houston Community College – evaluation of election impact for redrawing of college board election districts, 2022.

Consultant, Lone Star College – evaluation of election impact for redrawing of college board election districts, 2022.

Consultant, Killeen ISD – evaluation of election impact for redrawing of school board election districts, 2022.

Consultant, Houston ISD – evaluation of election impact for redrawing of school board election districts, 2022.

Consultant, Brazosport ISD – evaluation of election impact for redrawing of school board election districts, 2022.

Consultant, Dallas ISD – evaluation of election impact for redrawing of school board election districts, 2022.

Consultant, Lancaster ISD – redrawing of all school board member election districts including demographic analysis and redrawing of election districts, 2021.

Consultant, City of Baytown – redrawing of all city council member election districts including demographic analysis and redrawing of election districts, 2021.

Consultant, Goose Creek ISD – redrawing of all board member election districts including demographic analysis and redrawing of election districts, 2021.

Expert Witness, Bruni et al. v. State of Texas, straight ticket voting analysis, 2020.

Consulting Expert, Sarasota County, VRA challenge to district map, 2020.

Expert Witness, Kumar v. Frisco ISD, TX, racially polarized voting analysis, 2019.

Expert Witness, Vaughan v. Lewisville ISD, TX, racially polarized voting analysis, 2019.

Expert Witness, Johnson v. Ardoin, (Louisiana), racially polarized voting analysis, 2019.

Expert Witness, Flores et al. v. Town of Islip, NY, racially polarized voting analysis, 2018.

Expert Witness, Tyson v. Richardson ISD, racially polarized voting analysis, 2018.

Expert Witness, Dwight v. State of Georgia, racially polarized voting analysis, 2018.

Expert Witness, NAACP v. East Ramapo Central School District, racially polarized voting analysis, 2018.

Expert Witness, Georgia NAACP v. State of Georgia, racially polarized voting analysis, 2018.

Appendix 2

EXPERT REPORT OF JOHN R. ALFORD, Ph.D.

Scope of Inquiry

I have been retained by the Georgia Secretary of State and State Election Board as an expert to provide analysis related to *Grant v. Raffensperger*, *Alpha Phi Alpha v. Raffensperger*, and *Pendergrass v. Raffensperger*. All three cases allege the current U.S. Congressional, state Senate, and state House districts in Georgia violate Section 2 of the Voting Rights Act. In early 2022, I provided a report and testified in the preliminary injunction hearing in this matter. I have examined the reports and supplemental reports provided by plaintiffs' experts Dr. Maxwell Palmer, and Dr. Lisa Handley in this case. My rate of compensation in this matter is $500 per hour.

Qualifications

I am a tenured full professor of political science at Rice University. At Rice, I have taught courses on redistricting, elections, political representation, voting behavior and statistical methods at both the undergraduate and graduate level. Over the last thirty years, I have worked with numerous local governments on districting plans and on Voting Rights Act issues. I have previously provided expert reports and/or testified as an expert witness in voting rights and statistical issues in a variety of court cases, including on behalf of the U.S. Attorney in Houston, the Texas Attorney General, a U.S. Congressman, and various cities and school districts.

In the 2000 round of redistricting, I was retained as an expert to provide advice to the Texas Attorney General in his role as Chair of the Legislative Redistricting Board. I subsequently served as the expert for the State of Texas in the state and federal litigation involving the 2001 redistricting for U.S. Congress, the Texas Senate, the Texas House of Representatives, and the Texas State Board of Education. In the 2010 round of redistricting in Texas, I was again retained as an expert by the State of Texas to assist in defending various state election maps and systems including the district maps for the U.S. Congress, the Texas Senate, the Texas House of Representatives, and the current at large system for electing Justices to the State Supreme Court

and Court of Appeals, as well as the winner-take-all system for allocating Electoral College votes.

I have also worked as an expert on redistricting and voting rights cases at the state and/or local level in Alabama, Arkansas, Florida, Georgia, Kansas, Louisiana, Michigan, Mississippi, New Mexico, New York, Pennsylvania, Washington, and Wisconsin. The details of my academic background, including all publications in the last ten years, and work as an expert, including all cases in which I have testified by deposition or at trial in the last four years, are covered in the attached CV (Appendix 1).

Data and Sources

In preparing this report, I have reviewed the reports filed by the plaintiffs' experts in this case. I have relied on the analysis provided to date by Dr. Palmer and Dr. Handley in their expert reports in this case. I have also relied on various election and demographic data provided by Dr. Palmer and Dr. Handley in their disclosures related to their reports in this case. In addition, I relied on data on turnout by race for the 2022 Republican Primary election provided to counsel by the Georgia Secretary of State, and 2022 precinct-level election results for that election downloaded from the publicly available website of the Georgia Secretary of State.

Dr. Palmer's Reports

Dr. Palmer, in his report in *Pendergrass v. Raffensperger* dated 12/12/2022, provides the results of an EI election analysis that he used to assess Racially Polarized Voting (RPV) in each of 40 contests between 2012 and 2022, and reports the results in his Tables 1 through 6 for five U.S. Congressional districts and as a combined focus area. Similarly, in his report in *Grant v. Raffensperger* dated 12/12/2022, Dr. Palmer provides the EI results for the same 40 contests between 2012 and 2022 as reported in his Tables 2 through 6, for three Georgia House and two Georgia Senate focus areas. The race of the candidate preferred by Black voters is indicated in Dr. Palmer's tables with an asterisk by the name of each Black candidate, and the absence of an asterisk indicating a non-Black candidate. Across the 40 reported contests 19 of the preferred candidates are Black and 21 are non-Black, providing an ideal, almost equal distribution, for comparing both Black and white voter support for Black-preferred candidates that happen to be Black, with Black voter support for Black-preferred candidates that happen not to be Black.

However, despite having this data identified in his reports and the associated opportunity analyze it, there is no discussion of the impact, if any, that the race of the candidate might have on the behavior of Black or white voters in these contests. Also, Dr. Palmer provides no party labels in these tables, and does not mention the party of candidates in his discussion of the results of his analysis.

As evident in Dr. Palmer's Tables 1-6 in his *Pendergrass* report, and Tables 2-6 in his *Grant* report, the pattern of polarization is quite striking. Black voter support for their preferred candidate is typically in the 90 percent range and scarcely varies at all across the ten years examined from 2012 to 2022. Nor does it vary in any meaningful degree from the top of the ballot elections for U.S. President to down-ballot contests like Public Service Commissioner. While slightly more varied, estimated white voter opposition to the Black-preferred candidate is typically above 80 percent. In the *Pendergrass* Table 1 for the combined focus area, Dr. Palmer reports estimates of Black voter support that only varies between 96 and 99 percent when results are rounded to the nearest percent. White voter opposition to the Black preferred candidate is slightly more varied, but still remarkably stable, ranging in *Pendergrass* Table 1 only from 84.5% to 91.4 percent.

What accounts for this remarkable stability in the divergent preferences of Black and white voters across years and offices? It is clearly not Black voter's preference for Black candidates, or white voter's disinclination to vote for Black candidates. At 98.5 percent, the average Black support for the 19 Black candidates identified as Black in Palmer's *Pendergrass* Table 1 is indeed nearly universal, but so is the average 98.4 percent support for the 21 candidates identified as non-Black in Table 1. Similarly, the average white vote in opposition to the 19 candidates identified as Black in *Pendergrass* Table 1 is a clearly cohesive 88.1 percent, but so is the average 87.1 percent white voter opposition to the 21 candidates identified as non-Black. The same can said for Dr. Palmer's results in his *Grant* report where, for example, the average Black support for the 19 candidates identified as Black in Table 2 is 98.2 percent, and Black voter support for the 21 candidates identified as non-Black is a nearly identical 98.1 percent. Similarly, the average white vote in opposition to the 19 candidates identified as Black in *Grant* Table 2 is a clearly cohesive 90.1 percent, but so is the average 89.1 percent white voter opposition to the 21 candidates identified as non-Black.

If we do consider the party affiliation of the candidates, the pattern over these election contests is stark in both the *Grant* report and the *Pendergrass* report. In all 40 contests the candidate of choice of Black voters is the Democrat and the candidate of choice of white voters is the Republican.

In contrast, the race of the candidates does not appear to be influential. Black voter support for Black Democratic candidates is certainly high, as Dr. Palmer's Tables 2 through 6 in *Grant* and Tables 1 through 5 in *Pendergrass* clearly show, but those same figures also show Black voter support in the same high range for white Democratic candidates as it is for Black Democratic candidates. Similarly, white voter support for Black Democratic candidates is very low, but white voter support for white Democratic candidates is also very low.[1] In other words, there appears to be just one overarching attribute of candidates that uniformly leads to their relative acceptability or unacceptability among white voters and Black voters alike. And it is not the candidate's race. It is their party affiliation.

For example, in the 2022 contest for Governor in Dr. Palmer's *Pendergrass* Table 1 (his combined focus region) Stacey Abrams, the Black Democratic candidate, gets an estimated 98.5% of the Black vote, but in the same election in the adjacent Lt. Governor contest Charlie Bailey, a white Democrat, gets an almost identical estimated 98.4% of the Black vote. Looking at White voters a similar pattern is clear. Abrams gets an estimated 10.3% of the white vote, but in the same election in the adjacent Lt. Governor contest Baily, the white Democrat, received a similar estimated 12.1% of the white vote.

Similarly, in the 2021 U.S. Senate runoffs in Dr. Palmer's *Pendergrass* Table 1 (his combined focus region) Raphael Warnock, the Black Democratic candidate gets an estimated 98.7% of the Black vote, but in the same election in the other Senate contest Jon Ossoff, a white Democrat gets an identical estimated 98.7% of the Black vote. Looking at white voters a similar pattern is clear. Warnock, the Black Democratic candidate, gets an estimated 15.2% of the white vote, but in the same election in the other Senate contest, Ossoff, the White Democrat, gets an almost identical estimated 14.5% of the white vote.

[1] The limited evidence from the 2022 endogenous elections provided in Dr. Palmer's supplemental reports do not contradict this broad pattern.

Moving beyond his EI analysis, Dr. Palmer also provides reconstituted election results to demonstrate the success rate of Black preferred candidates in his focus areas. Given that as mentioned above the Black preferred candidate is always the Democratic candidate and given the dominance of political party in the EI results as discussed above, it is no surprise that these tables show stable performance for Democratic candidates across the 40 contests, regardless of race. For example, in Dr. Palmer's Table 7 in his *Pendergrass* report, the average vote share for the Democratic candidate is 41.7 percent in the 19 contests where the Democratic candidate is Black, and a very similar 42.3 percent in the 21 contests where the Democratic candidate is not Black.

In short, all that Dr. Palmer's analysis demonstrates is that Black voters provide uniformly high levels of support for Democratic candidates and white voters provide uniformly high levels of support for Republican candidates. There is no indication in these EI results that the high levels of Black voter support for Democratic candidates is connected in any meaningful way to the race of the Democratic or Republican candidates. Similarly, there is no indication in these results that the high levels of white voter support for the Republican candidates is connected in any meaningful way to the race of the Democratic or Republican candidates.

Dr. Handley's Report

Dr. Handley's December 12, 2022 report in *Alpha Phi Alpha* focuses first on general elections, and reports results similar to those reported by Dr. Palmer. Black voters support Democratic candidates and white voters support Republican candidates. She indicates that she has chosen to focus on racially contested elections, so this limits the ability to see whether this partisan pattern varies at all with the race of the candidates, but in the two contests without a Black Democrat, the Ossoff 2020 Senate contest and 2021 runoff, the results for both Black and White voters are very similar to the results for the racially contested elections, as was the case in Dr. Palmer's larger set of general elections.

Unlike Dr. Palmer, Dr. Handley also analyzes eleven racially contested statewide Democratic primaries. The results in these primaries are very different from the general election patterns. The general election pattern is a very important contrast to keep in mind when evaluating the results for these eleven primary contests. In the general elections, Black support for the Democratic candidate is very high and very stable in the upper 90% range. Similarly,

White voter opposition to the Democratic candidates is also high and stable in the 80 percent and up range.

While there is not currently a bright-line court standard for determining the level of support needed under *Gingles* prongs 2 and 3 to demonstrate cohesion, multiple plaintiffs' experts have recently discussed a minimum of 60 percent threshold for cohesion in a two-person contest. Simply having a preferred candidate (50 percent plus 1 in a two-candidate contest) is not sufficient. This is, of course, true by definition. If simply having a preferred candidate was sufficient to establish cohesion, then the *Gingles* 2 threshold test would always be met in two candidate contests and thus not actually constitute a test at all. As Dr. Palmer notes on page 4 of his *Pendergrass* report, "[i]f the group's support is roughly evenly divided between the two candidates, then the group does not cohesively support a single candidate". Even if a more stringent 75 percent or 80 percent threshold was the cohesion threshold standard, the results for the general elections provided by both Dr. Palmer and Dr. Handley clearly establish partisan polarization, with Blacks always favoring Democratic candidates at stable levels well above 80 percent, and whites favoring Republican candidates at similarly stable levels, typically above 80 percent.

Applying the 60 percent threshold for cohesion to the 40 general election contests in Dr. Palmer's *Grant* report or the 40 general election contests in Dr. Palmer's *Pendergrass* report, produces the same clear result. In 40 out of 40 contests, Black voters provide cohesive support to the Democratic candidate and white voters provide cohesive support to the opposing Republican candidate. This unequivocal result is what Palmer references as supporting his conclusion of polarized voting. As he states on pages 5-6 of his December 12, 2022 *Grant* report:

> *Black voters are extremely cohesive, with a clear candidate of choice in all 40 elections. In contrast to Black voters, Figure 2 shows that White voters are highly cohesive in voting in opposition to the Black-preferred candidate in every election across the five focus areas. Table 1 lists the average level of support for the Black-preferred candidate for Black and White voters in each focus area. Across all five focus areas, Black voters support their preferred candidate with an average of 98.5% and a minimum of 95.2% of the vote, and White voters support Black-preferred candidates with an average of 8.3% and a maximum of 17.7% of the vote. This is strong evidence of racially polarized voting across all five focus areas.*

The same can be said for the 16 general election contests that Dr. Handley includes for each of her seven focus regions as reported in her Appendix C1-C7. In every one of the 16 contests examined in all seven regions, Black voter support for the Democratic candidate clearly exceeds 60 percent and in all the regular elections (excluding the one 20 candidate special Senate election in 2020) exceeded 90 percent. White voters provided cohesive support to the opposing Republican candidates exceeding 60% in every contest with the sole exception of the 2022 Senate contest in Appendix 1, where the white estimated vote fell just short of 60 percent at 59.3 percent.

As Dr. Handley, herself, states on page 9 of her December 23, 2022 Report:

> *Overall, the average percentage of Black vote for the 16 Black-preferred candidates is 96.1%. The average percentage of White vote for these 16 Black-preferred candidates across the seven areas is 11.2%. (When Ossoff is excluded, and only Black-preferred Black candidates are considered, the average White vote is slightly lower: 11.1 %.) The highest average White vote for any of the 16 candidates is 14.4% for Raphael Warnock in his 2022 general election bid for re-election. While the percentage of White support for candidates preferred by Black voters varies across the areas, in five of the seven areas the average did not even reach 10%. White crossover voting was the highest in the Eastern Atlanta Metro Region (Map 1), but only about one third of White voters typically supported the Black-preferred Black candidates in this area.*

She finds similarly clear evidence of polarization when she considers the analysis of state legislative elections included in her Appendix B1 and B2, stating on page 9 of her December 23, 2022:

> *Nearly every one of the 54 of the state legislative elections analyzed (53 of the 54 contests, or 98.1%) was racially polarized. The estimates of Black and White support for the state legislative candidates in these contests analyzed can be found in Appendices B1 (State Senate) and B2 (State House). Black voters were quite cohesive in supporting Black candidates in these state legislative contests: on average, 97.4% of Black voters supported their preferred Black state senate candidates, and 91.5% supported their preferred Black state house candidate. Very few White voters supported these candidates, however: Black-preferred Black state senate candidates garnered, on average, 10.1% of the White vote; Black-preferred Black state house candidates received, on average, 9.8% of the White vote.*

Based on their summary descriptions of their general election analysis, it is clear that both Dr. Palmer and Dr. Handley know what a convincing pattern of polarization looks like. That clear pattern is not present once candidate party labels are removed from the contest. Dr. Palmer

makes no effort to address this issue of conflating polarization in support for Democratic versus Republican candidates with racial polarization. Dr. Handley attempts to address the issue by providing analysis for eleven Democratic primaries in each of her seven focus regions.

But looking at the Democratic primary contests, as reported in Dr. Handley's Appendix C1-C7, the contrast to the pattern in the partisan general elects is stark. As detailed above, the pattern of Black voter support for Democratic candidates and white voter support for their Republican opponents in general elections is near universal, and both Black and white voters show strong and highly stable levels of cohesion. In contrast the pattern Dr. Handley identifies in the Democratic primaries is far from universal or stable. The support of Black voters for Black candidates varies widely, and seldom reaches above 80 percent. Similarly, white voter support for Democratic candidates is typically below 20% in the general elections, but in the primaries white support for Black candidates varies widely and is often fairly evenly divided. In many of the contests within Dr. Handley's six focus regions, for example, the votes of Blacks, whites, or both are divided too evenly to characterize the voting as cohesive. Even ignoring any concern for establishing minority or majority cohesion and applying a very loose standard of Blacks and whites simply preferring different candidates, Dr. Handley is only able to conclude that "the majority (55.8%) of the contests I analyzed were racially polarized" (page 10), a level not much above chance, and far below the 100 percent or 98.1 percent reported for general elections.

If we consider the *Gingles* 2 and 3 cohesion thresholds, even this slight result disappears. Using even a modest 60% standard for voter cohesion, Black voters vote cohesively for Black candidates in only 35 contests out of 77 (46 percent). If we add the instances where Blacks vote cohesively for white candidate that rises to 49 contests (64 percent of the 77 total). In those 49 contests, white voters cohesively opposed the Black preference in only 10 contests (20 percent of the 49 contests).

Herschel Walker Senate Race

The recent 2022 Republican U.S. Senate primary provides an additional racially contested primary to consider. Among the six candidates, the majority winner was Herschel Walker, one of the three Black candidates. Given that Black voters were less than 12 percent of the voters in in any county in the state in that primary, and that Walker received a majority of the vote in every county in Georgia, it is clear the Walker was the preferred candidate among White voters

in the Republican primary. This can be seen as well in an initial look at EI estimates for the area covered in Dr. Handley's Appendix A1, reproduced below in Table 1 (Eastern Atlanta Metro Region – Map Area 1, Dekalb, Henry, Morgan, Newton, Rockdale, and Walton). With an estimated 62 percent support among Black voters, and 67 percent support among white voters, Walker is the preferred candidate of both Black and white voters in the Republican primary.

Table 1; Ecological Estimates of Voting Patterns by Race in the 2022 Republican U.S. Senate Primary for Dr. Handley's Eastern Atlanta Metro Region

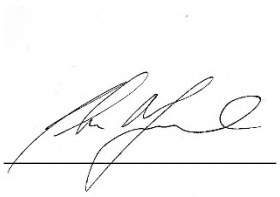
			95% Confidence Interval			95% Confidence Interval			95% Confidence Interval	
Last Name	**Candidate Race**	**Black support**	**Low**	**High**	**White Support**	**Low**	**High**	**Other Support**	**Low**	**High**
Herschel Walker	Black	**62.4%**	57.8%	67.4%	**67.0%**	66.3%	67.6%	5.3%	1.8%	11.7%
Kelvin King	Black	**10.1%**	7.7%	12.8%	**2.5%**	2.0%	3.0%	17.5%	12.5%	22.5%
"Jon" McColumn	Black	**3.0%**	1.7%	4.8%	**0.9%**	0.6%	1.2%	22.4%	18.8%	25.4%
Gary Black	white	**12.8%**	9.6%	16.2%	**15.3%**	14.5%	16.0%	9.3%	3.3%	17.0%
Latham Saddler	white	**7.1%**	4.1%	10.7%	**12.7%**	11.9%	13.5%	15.7%	7.8%	24.0%
Josh Clark	white	**4.5%**	2.7%	6.8%	**1.6%**	1.1%	2.2%	29.8%	23.7%	35.3%

Summary Conclusions

The partisan general election analysis report by Dr. Palmer and Dr. Handley show that Black voters cohesively support Democratic candidates, regardless of whether those candidates are Black or White. Similarly, white voters cohesively vote for Republican candidates, and in opposition to Democratic candidates, regardless of whether those Democratic candidates are Black or white. Thus, it is cohesive Black voter support for *Democratic* candidates, and white voter support for *Republican* candidates that the general election analysis reveals, not cohesive Black voter support for *Black* candidates and white voter support for *white* candidates. Nonetheless, the voting pattern is clearly one of partisan polarized voting, with both highly cohesive Black vote for the Democrat and highly cohesive white vote for the Republican candidate. The more limited analysis of Democratic primaries reported by Dr. Handley shows a very different picture of voting behavior from the general elections. Nothing even approaching the levels of Black and white cohesion seen in the general elections appears anywhere in the

primary contests, and the overall patterns are mixed and variable even within the same set of voters on the same day as we see in the multiple contests in the 2018 Democratic primary. Similarly, the 2022 U.S. Senate Republican primary indicates that white Republican primary voters are willing to support a Black Republican candidate over multiple white opponents.

February 6, 2023



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