

**IN THE UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF ALABAMA
SOUTHERN DIVISION**

EVAN MILLIGAN, et al.,

Plaintiffs,

vs.

JOHN H. MERRILL, et al.,

Defendants.

No. 2:21-cv-01530-AMM

Rebuttal Report of Baodong Liu, Ph.D.

December 20, 2021

I have been asked to express my opinion on the expert report of Dr. M.V. Hood III, an expert for the Defendants in the above captioned litigation. This report serves as a rebuttal to Dr. Hood's report dated December 10, 2021.

This rebuttal summarizes the areas of agreement and the limitations of Dr. Hood's report.

Areas of Agreement with Dr. Hood

Despite my concerns about his methodology, Dr. Hood and I agree in four important areas. First, Dr. Hood rightly concluded in his report that "racially polarized voting is present [in Alabama] with black voters overwhelmingly supporting the Democratic candidate and more than a majority of white voters casting a ballot for the Republican candidate." (Hood p. 13) Second, Dr. Hood and I agree that white bloc voting will usually result in the defeat of Black-preferred candidates in white-majority districts in Alabama. (Hood p. 14, Liu p. 18) Third, Dr. Hood is correct about the necessity of using Gary King's ecological inference (ei) method for estimating the candidate of choice for different racial groups (Hood p. 3) Finally, Dr. Hood and I agree that, "[i]n a Democratic primary, white and black voters may support different candidates. If there is an insufficient number of black voters to constitute a majority in a Democratic primary, the black community may be unable to elect their candidate of choice." (Hood p. 14). Indeed, my initial report used ei to show racially polarized voting in the 2020 congressional district (CD) 1 primary election (Liu p. 10) and I reviewed exit poll data that showed racially polarized voting in the 2008 Democratic presidential primaries (Liu p. 14).

The Methodology in Dr. Hood's Study of Racial Turnout Rates

Dr. Hood rightly acknowledged the need to consider racial turnout disparities when offering his opinion on functionality analysis (FA). His method for his FA was an attempt to predict what will happen in the future given how different plans including the “enacted plan” provide different opportunity structures for racial groups to vote for their candidate of choice.

In his first step of FAs, Dr. Hood used *ei* to derive his racial group vote estimates for candidates. For example, his Table 1 shows the racial estimates (Black, White and Other) for the vote choice between the Democratic candidate (Biden) and the Republican candidate (Trump) by using the 2020 Presidential election dataset. His Table 1 indicates the racially polarized voting (RPV) results between Black and white voters with respect to the enacted CD 7.

Strangely, after showing the results of RPV in Table 1, Dr. Hood went on to estimate racial turnout disparities by using what he labeled as “historical registration and turnout data”. This procedure is odd because his Table 1 results were already derived along with the racial turnout disparities. To be more specific, the *ei* package he used (*eiPack*) and the *RxC* procedure in his *ei* operation allowed him to estimate racial turnouts as well as racial vote estimates for candidates. This is the appropriate approach for his FA, and his R-code in his “Replication” folder showed that he indeed engaged in such R operation. Thus, he should already have had his racial turnout rates as he completed his Table 1 procedure. But Dr. Hood choose not to report these racial turnout estimates from his own *ei* operations. Instead, he went further to use a different dataset and a different method to derive his Tables 2 and 3 about racial turnout breakdown in enacted CD 7.

After being asked to provide a detailed explanation for how his method for arriving at the results reported in his Tables 2 and 3, Dr. Hood did not provide the requested explanation.

The Selected Elections in Dr. Hood's Report

In Dr. Hood's published article, “From Legal Theory to Practical Application: A How-To for Performing Vote Dilution Analyses,” the appropriate approach to an RPV analysis, according to Dr. Hood and his two co-authors, “must also consider the race/ethnicity of the candidates running for election. Of the elections available for analysis, the more relevant are those that feature a minority candidate from the racial/ethnic group suing the jurisdiction in question. For example, in a vote dilution suit brought by Latino voters, one would seek election contests featuring Hispanic candidates, while also keeping in mind the other criteria previously discussed” (Hood, Morrison and Bryan, 2017, p.546).¹ But the two elections Dr. Hood analyzed (i.e., the 2020 Presidential Election and the 2018 Gubernatorial Election) did not directly involve a minority candidate. The 2018 Gubernatorial Election did not involve a minority candidate at all. Though the Democratic Vice-Presidential candidate was a minority (Black/Asian) candidate

¹ M.V. Hood III, Peter A. Morrison, and Thomas M. Bryan. 2017. “From Legal Theory to Practical Application: A How-To for Performing Vote Dilution Analyses.” *Social Science Quarterly* 99 (2): 536-552.

(Kamala Harris), the 2020 Presidential Election featured two white men on the top of the tickets for both major parties.²

The Misleading Assertion about Black Republican Candidate “Success” in Dr. Hood’s Report

Dr. Hood next switched his attention to “minority Republican candidates” (p. 15). Arguing that “white conservatives support minority Republican candidates at the same rates or at significantly higher rates than Anglo (non-Hispanic white) GOP nominees”, Dr. Hood attempted to relate what happened in Alabama to his own 2015 publication on Public Opinion Quarterly. Without doing any RPV analysis for a single election that did take place in Alabama, Dr. Hood cited Kenneth Paschal from HD 73 as an example for his claim. Paschal won the Republican runoff election in 2021 with 51.1% votes cast, according to Dr. Hood, and he defeated his white Democratic opponent in the Special General Election at the end with 74.7% of the vote.

But as Dr. Hood indicated, Paschal, as an African American, “ran in a Shelby County district which is 84.1% white VAP.” Such a super white-majority district, unfortunately, does not allow any realistic opportunity to estimate the extent to which RPV, or lack thereof, may have any influence on the election outcome in a typical racially contested election in Alabama. To verify Dr. Hood’s claim, I ran an RxC ei operation by using the precinct-level election data from the 2021 special election in HD 73. The results of my RPV analysis shows that it is indeed an unreliable election to estimate white support for a Black Republican candidate. The turnout was low overall at 5.3% of the voting-age population. Especially among the white electorate, only 1.7% of the white voting-age population turned out to vote, which suggests that white voters were not highly interested in this election featuring a Black Republican candidate. Furthermore, both white and black racial vote estimates had an extremely large confidence interval³ to the extent that the wide range for the ei results are not useful and cannot be taken seriously. The white vote, for instance, may be as low as 22% for Paschal or as high as 88.9%, while his Black support was similarly estimated between 15% and 72%.

To gauge the willingness of white voters in Alabama to vote for a Black Republican candidate, one should pay attention to state-wide elections where white voters are given a chance to vote for a Black Republican candidate with high name-recognition in a racially contested election.⁴ To evaluate Dr. Hood’s claim, I conducted a RPV analysis of the 2016 Republican Presidential Primary in Alabama in which Ben Carson, a highly publicized Black candidate, ran against ten other candidates including President Donald Trump.

I report the RPV findings about this election in Table A below. Ben Carson, as shown in the table, received only about 9% of the white vote in Alabama. In contrast, Carson received about 31% of the Black Republican vote. Thus, Black Republicans were over three times more likely

² As a verification study, I ran a RxC ei operation for the 2020 Presidential election, and the state-wide results showed that indeed it was highly racially polarized in that Biden/Harris won around 95% of the Black vote and only 12% of the white vote.

³ I explained confidence intervals in footnote 10 of my initial report.

⁴ For example, national polls from October 2015 showed Carson as the lead Republican candidate. NBC/WSJ Poll: Carson Surges Into Lead of National GOP Race (Nov. 2, 2015), <https://www.nbcnews.com/politics/2016-election/nbc-wsj-poll-carson-surges-lead-national-gop-race-n456006>.


than whites to support Carson. Donald Trump, on the other hand, received more than 44% of the white vote and essentially tied with Carson with 33% of the Black Republican vote. When the primary outcome was announced, Trump was the overwhelming winner with more than 43% of the total votes cast while Carson was in the fourth place with barely over 10% of the votes.

Table A: RPV in the 2016 Republican Presidential Primary, Alabama

Group	Turnout	Carson	Trump	All-others
Black	0.013 (0.011, 0.022)	0.307 (0.268, 0.338)	0.333 (0.299, 0.368)	0.36 (0.326, 0.397)
White	0.312 (0.296, 0.319)	0.089 (0.078, 0.094)	0.447 (0.443, 0.455)	0.464 (0.461, 0.467)
Total	0.217	0.103	0.439	0.458

It is also worth noting that only 1.3% of Black voters participated in this Republican primary. Dr. Hood's assertion of the white conservative support for Black Republican candidates in Alabama has little, if any, empirical support.

Per 28 U.S. Code § 1746, I declare under penalty of perjury that the forgoing is true and correct. Executed on December 20, 2021.


Baodong Liu, Ph.D.