

EXHIBIT 7

**IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF MISSISSIPPI
NORTHERN DIVISION**

LESLIE-BURL McLEMORE;
CHARLES HOLMES;
JIMMIE ROBINSON, SR.; and
RODERICK WOULLARD,

Plaintiffs,

v.

DELBERT HOSEMAN, in his official capacity
as the Mississippi Secretary of State; and PHILIP
GUNN, in his official capacity as the Speaker of the
Mississippi House of Representatives,

Defendants.

Civil Action

Case No. 3:19-cv-383-DPJ-FKB

DECLARATION OF JONATHAN RODDEN

JONATHAN RODDEN, acting in accordance with 28 U.S.C. § 1746, Federal Rule of Civil Procedure 26(a)(2)(B), and Federal Rules of Evidence 702 and 703, does hereby declare and say:

I. INTRODUCTION

1. Section 140 of the Mississippi Constitution states that in order to be declared the winner, a candidate for governor must do two things. First, the candidate must win not just a plurality, but a majority of the statewide popular vote. Second, the candidate must win a majority of electoral votes, where one electoral vote is awarded to the candidate with the highest vote total in a State House of Representatives district. Section 141 states that, in the event that no candidate fulfills both of the requirements, the Mississippi House of Representatives shall choose the winner among the two candidates who received the most popular votes. Section 143 extends these provisions to all other statewide elected offices.

2. I have been asked by the plaintiffs in this case to examine whether, relative to the typical statewide plurality rule used for such offices in most other states, these unusual provisions make it more difficult for African Americans to elect their preferred candidates in Mississippi statewide elections.

3. To answer this question, it is necessary to derive answers to a series of subsidiary questions. First, to what extent is voting in Mississippi racially polarized? That is, to what extent do African Americans and whites typically prefer different candidates in statewide elections? Second, how are African Americans distributed across Mississippi's House Districts? Third, what are the implications of this distribution for the ability of the candidates preferred by African Americans to win a majority of electoral votes, and relatedly, a majority of the House of Representatives if the election ends up determined there?

II. SUMMARY OF CONCLUSIONS

4. My findings can be summarized as follows:

5. Voting in Mississippi has become extremely racially polarized in recent years. In 2008, around 90 percent of African Americans voted for Democratic candidates, and around 80 to 90 percent of whites voted for Republican candidates.

6. African Americans and whites are highly concentrated within the districts of the Mississippi House of Representatives. There are 80 majority-white districts, the vast majority of which are over 70 percent white. There are 42 black-majority districts, the vast majority of which are over 60 percent black. There are very few heterogeneous districts.

7. The confluence of racially polarized voting and the geographic concentration of white and African-American voters in certain Mississippi House districts means that it is more difficult for candidates preferred by African Americans to win statewide elections. Even if

African-American-preferred candidates win a narrow statewide majority, the distribution of racial groups across House districts would likely prevent that candidate from winning a majority of electoral votes.

8. In fact, analysis based on past patterns of racially polarized voting suggests that black-preferred candidates would lose the electoral vote even with comfortable majorities of the statewide vote, and would need more than 55 percent of the statewide vote in order to secure a majority of electoral votes. Candidates preferred by whites, by contrast, would be able to win the electoral vote without winning a majority of the popular vote.

9. This analysis is further supported by examinations of statewide elections in 2015. The distribution of votes across districts is such that in competitive elections, even black-preferred candidates with comfortable statewide majorities would be likely to lose the electoral vote. And white-preferred candidates would be able to win the electoral vote with well less than half of the popular vote.

10. Jim Hood's 2015 election is especially instructive. In that election, Mr. Hood was the only black-preferred statewide candidate to win a statewide election. He received 55.3 percent of the statewide vote, yet he was able to win only a narrow majority of electoral votes. Moreover, many of his electoral votes were won by very narrow margins in majority-white districts, such that a swing against him of only two percentage points would have left him with a majority (53.3 percent) of the popular vote, but with only 47 percent of the electoral votes.

11. The requirement that a candidate receive a majority of the popular vote also reduces the likelihood of African Americans electing candidates of choice. Recent campaign participation by Reform Party and Libertarian candidates enhance the likelihood that neither of the major parties wins a majority, thus raising the prospect that in the event of a closely contested statewide election,

the House of Representatives would determine the winner.

12. A combination of racially polarized voting and political geography make it exceptionally difficult to imagine a circumstance in which a black-preferred statewide candidate would be selected by the Mississippi House of Representatives.

13. As a result, white-preferred candidates can be elected with a mere plurality of the popular vote, and if small-party candidates are on the ballot, white-preferred candidates can be elected even if the black-preferred candidate wins the largest share of the popular vote. In contrast, in order to take office, black-preferred candidates must win an outsized statewide majority of the popular vote.

III. QUALIFICATIONS

14. I am currently a tenured Professor of Political Science at Stanford University and the founder and director of the Stanford Spatial Social Science Lab (“the Lab”)—a center for research and teaching with a focus on the analysis of geo-spatial data in the social sciences. In my affiliation with the Lab, I am engaged in a variety of research projects involving large, fine-grained geo-spatial data sets including ballots and election results at the level of polling places, individual records of registered voters, census data, and survey responses. Prior to my employment at Stanford, I was the Ford Professor of Political Science at the Massachusetts Institute of Technology. I received my Ph.D. from Yale University and my B.A. from the University of Michigan, Ann Arbor, both in political science. A copy of my current C.V. is included as Appendix B.

15. In my current academic work, I conduct research on the relationship between the patterns of political representation, geographic location of demographic and partisan groups, and the drawing of electoral districts. I have published papers using statistical methods to assess

political geography, voting, and representation in a variety of academic journals including *Proceedings of the National Academy of Science*, *American Economic Review Papers and Proceedings*, the *Journal of Economic Perspectives*, the *Virginia Law Review*, the *American Journal of Political Science*, the *British Journal of Political Science*, the *Annual Review of Political Science*, and the *Journal of Politics*. One of these papers was recently selected by the American Political Science Association as the winner of the Michael Wallerstein Award for the best paper on political economy published in the last year.

16. I have recently written a series of papers, along with my co-author, Jowei Chen, using automated redistricting algorithms to assess partisan gerrymandering. This work has been published in the *Quarterly Journal of Political Science* and *Election Law Journal*, and it has been featured in more popular publications like the *Wall Street Journal*, the *New York Times*, and *Boston Review*. I have recently completed a book, to be published by *Basic Books* in 2019, on the relationship between political districts, the residential geography of social groups, and their political representation in the United States and other countries that use winner-take-all electoral districts.

17. I have expertise in the use of large data sets and geographic information systems (GIS), and conduct research and teaching in the area of applied statistics related to elections. My PhD students frequently take academic and private sector jobs as statisticians and data scientists. I frequently work with geo-coded voter files and other large administrative data sets, including in a recent paper published in the *Annals of Internal Medicine*. I have developed a national data set of geo-coded precinct-level election results that has been used extensively in policy-oriented research related to redistricting and representation, as well as with Census data from the United States and other countries.

18. I have been accepted and testified as an expert witness in five recent election law cases: *Romo v. Detzner*, No. 2012-CA-000412 (Fla. Cir. Ct. 2012); *Mo. State Conference of the NAACP v. Ferguson-Florissant Sch. Dist.*, No. 4:2014-CV-02077 (E.D. Mo. 2014); *Lee v. Va. State Bd. of Elections*, No. 3:15-CV-00357 (E.D. Va. 2015); *Arizona Democratic Party, et al. v. Michele Reagan, et al.*, No. 16-1065-PHX-DLR (D. Ariz. 2016); and *Bethune-Hill v. Virginia State Board of Elections*, No. 3:14-cv-00852-REP-AWA-BMK (E.D. Va. 2014). In addition, I recently submitted written testimony in *League of Women Voters of Florida v. Detzner*, No. 4:18-cv-002510 (N.D. Fla. 2018) and *College Democrats at the University of Michigan, et al. v. Johnson et al.*, No. 3:2018-cv-12722 (E.D. Mich. 2018). I submitted an expert report and was deposed in *Nancy Corola Jacobson et al. v. Detzner*, No. 1:18-cv-00095 (N.D. Fla. 2018). I also worked with a coalition of academics to file an Amicus Brief in the Supreme Court in *Gill v. Whitford*, No. 16-1161, and once again in *Rucho v. Common Cause*, 18-422. Much of the testimony in these cases had to do with geography, voting, race and other demographic characteristics, districting, and election administration. I am being compensated at the rate of \$500/hour for my work in this case.

IV. RACIALLY POLARIZED VOTING IN MISSISSIPPI

19. In order to assess the impact of electoral rules on the ability of African Americans and whites to elect their preferred candidates, we must ascertain who those candidates are, and the extent to which the preferences of the two groups diverge. In order to do this, I pursue three strategies. I begin by examining the relationship between race and voting using county-level data. Second, I use precinct-level data to conduct ecological inference that allows me to produce estimates of the rates at which whites and African Americans voted for U.S. Senate and presidential candidates in 2008. And third, I turn to the relationship between race and voting at the level of geography that is crucial in determining the winners of statewide elections: Mississippi

House of Representatives districts. All of these analyses demonstrate that black and white Mississippians vote cohesively for different candidates.

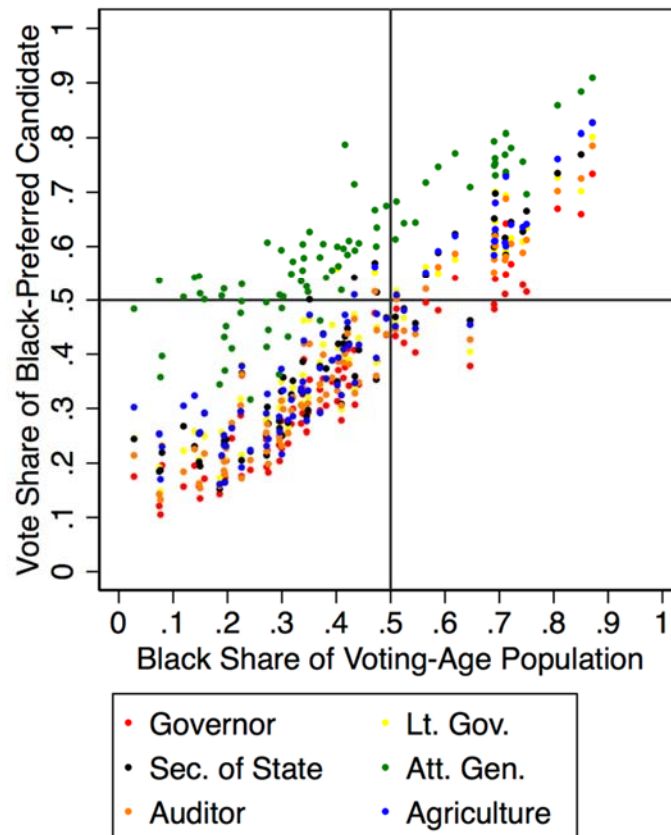
A. County-Level Analysis

20. County-level data are useful because unlike precincts or legislative districts, counties are stable units of geography over time. By examining county-level data, we can gain an understanding of the extent to which racially polarized voting, if it exists, might be changing over time. The Mississippi Secretary of State has provided official county-level election results for all statewide offices in the elections of 2003, 2007, 2011, and 2015. Mississippi is composed of a mix of counties, like George, that are well over 75 percent white, counties like Jefferson, where the population is beyond 75 percent African American, and counties like Pike, where the population is evenly mixed between African Americans and whites. As a first cut, we can see whether, for various statewide offices, there is a county-level correlation between race and voting behavior.

21. Figure 1 is a simple scatterplot. It displays the African-American population share of the voting-age population in each Mississippi county on the horizontal axis (taken from the most recent census redistricting data from the 2013-2017 American Community Survey). On the vertical axis, it displays the vote shares for statewide candidates for various contested offices in the 2015 general election (from the Mississippi Secretary of State). These candidates are Robert Gray in the gubernatorial election, Tim Johnson in the Lieutenant Governor race, Charles Graham in the race for Secretary of State, Jim Hood in the race for Attorney General, Jocelyn Pritchett in the race for State Auditor, and Addie Lee Green in the race for Commissioner of Agriculture and Commerce. (The election for Treasurer was uncontested). In each case, there is a clear and rather strong correlation between the black share of the population and the vote share of the specific

candidate. These county-level patterns make it quite clear that in the 2015 general election, African Americans voted rather cohesively. Each of the candidates listed above received a clear majority of the votes cast in the black-majority counties, and in the more homogeneous black counties, the majorities for these candidates were quite large. For instance, even though he only received 36 percent of the vote statewide, Charles Graham received over 60 percent of the vote in the majority-black counties in the Secretary of State election. In the counties that are at least 75 percent African American, he received almost 77 percent of the vote. While Robert Gray received only 32 percent of the gubernatorial vote statewide, he received over 68 percent of the vote in the counties that were more than 75 percent black.

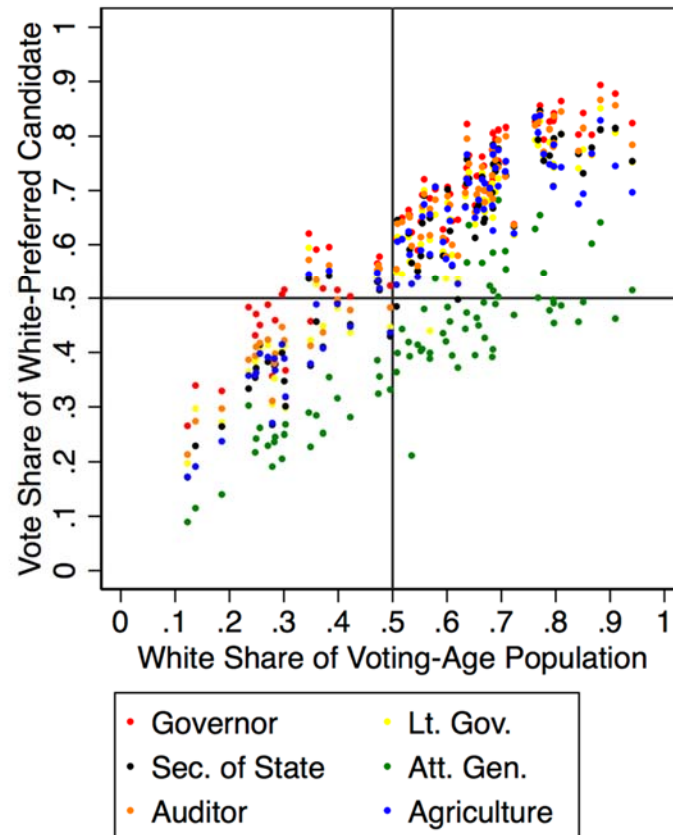
Figure 1: County-Level Scatterplot of Black Voting-Age Population Share and Vote Shares of Black-Preferred Candidates, Contested Races in 2015 Mississippi Statewide Election



22. Mississippi's white voters were also very cohesive in the 2015 election, where with

one possible exception, their candidates of choice were different in each election from the candidates of choice of African-American voters. Figure 2 provides a similar plot, but in this instance, the white voting-age population is on the horizontal axis, and the vote shares of the white-preferred candidates are on the vertical axis. The white-preferred candidates were Phil Bryant in the gubernatorial election, Tate Reeves in the Lieutenant Governor election, Delbert Hosemann in the Secretary of State election, Stacey Pickering in the Auditor election, and Cindy Hyde-Smith in the Commissioner of Agriculture and Commerce election.

Figure 2: County-Level Scatterplot of White Voting-Age Population Share and Vote Shares of White-Preferred Candidates, Contested Races in 2015 Mississippi Statewide Election



23. While receiving around 61 percent of the statewide vote, Mr. Hosemann received around 71 percent of the vote in the majority-white counties, and 80 percent of the vote in the

counties where whites made up more than 75 percent of the voting-age population. While receiving around 66 percent of the statewide vote, Phil Bryant received around 74 percent of the vote in majority-white counties, and around 84 percent of the vote in counties that were over 75 percent white.

24. While the African-American candidate of choice is rather obvious in all of the 2015 statewide races, this is true for whites in five of the six contested elections. As one can appreciate by looking at the green dots in Figures 1 and 2, the distribution of votes across counties was quite distinctive in the Attorney General race. While Jim Hood won a large majority of votes in black-majority counties, Mike Hurst won only a very small majority of the votes cast in white counties—51 percent—and he won around 56 percent of the votes cast in counties that were over 75 percent white. In other words, the county-level data suggest that Hood was the black-preferred candidate in 2015, whereas whites were more evenly split between Hood and Hurst.

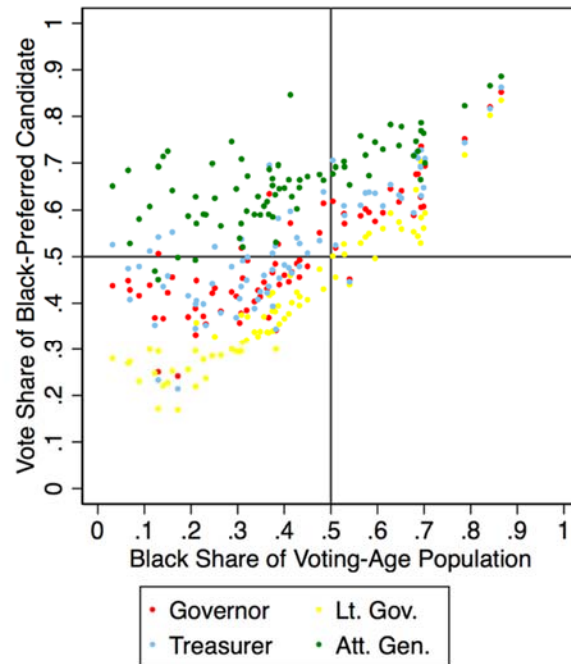
25. Leaving aside elections that were not fully contested,¹ let us now use the county-level data to examine whether the pattern of racially polarized voting explored in Figures 1 and 2 has been present in past elections as well. County-level data for statewide elections are available from the Secretary of State since 2003.

26. Figure 3 provides similar scatterplots for the races that were contested in 2003. The black-majority counties' candidates of choice in this case were Musgrove in the gubernatorial race, Blackmon in the race for Lieutenant Governor, and Anderson in the Treasurer election. The white-majority counties preferred Barbour (Governor), Tuck (Lieutenant Governor), and Reeves (Treasurer). The correlation between race and voting was relatively strong in each of these

¹ Specifically, I leave out races in which the second-place candidate failed to obtain 15 percent of the statewide votes. In most of the dropped elections, the race was truly uncontested in that there was no second-place candidate at all.

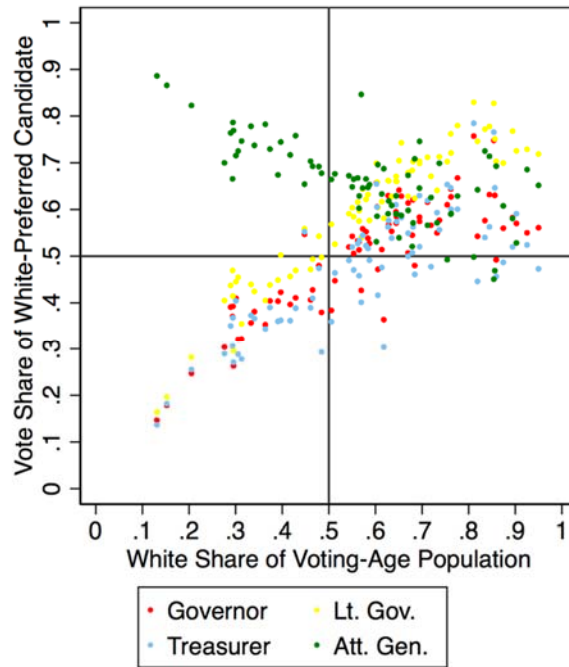
elections, and it is clear that black-majority counties and white-majority counties provided majorities for different candidates.

Figure 3a: County-Level Scatterplot of Black Population Share and Vote Shares of Black-Preferred Candidates, Contested Races in 2003 Mississippi Statewide Election



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Figure 3b: County-Level Scatterplot of White Population Share and Vote Shares of White-Preferred Candidates, Contested Races in 2003 Mississippi Statewide Election



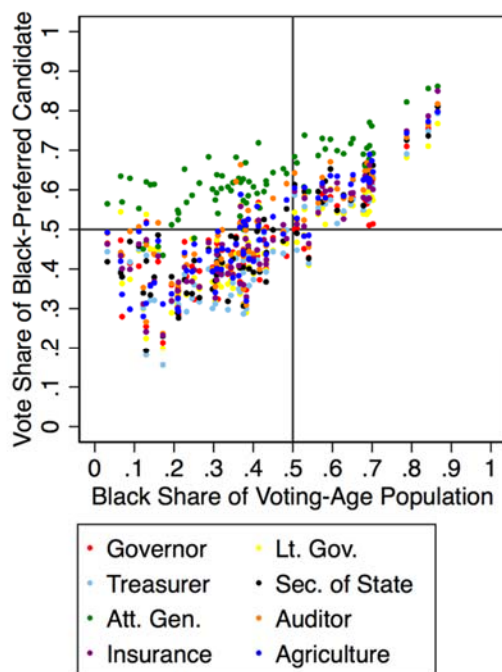
27. However, voting was less polarized in the race for Attorney General, where black- and white-majority counties provided majorities for the same candidate, Mr. Hood.²

28. Next, Figure 4 provided a similar graph for 2007, when the preferred candidates in black-majority counties were Eaves for Governor, Franks for Lieutenant Governor, O'Hara for Treasurer, Smith for Secretary of State, Hood for Attorney General, Sumrall for Auditor, Anderson for Insurance Commissioner, and Cole for Commissioner of Agriculture and Commerce. The preferred candidates for white-majority counties were Barbour (Governor), Bryant (Lieutenant Governor), Reeves (Treasurer), Hosemann (Secretary of State), Hopkins (Attorney General), Pickering (Auditor), Chaney (Insurance), and Spell (Agriculture and Commerce). In all of these

² Likewise, voting was of course less racially polarized in the additional statewide races where incumbents ran without serious opposition. These include the election for Auditor, where Phil Bryant received 98 percent of the statewide vote, Secretary of State, where Eric Clark received 96 percent of the vote, Secretary of Agriculture and Commerce, where Lester Spell received 86 percent of the vote, and Commissioner of Insurance, where George Dale received 93 percent of the vote.

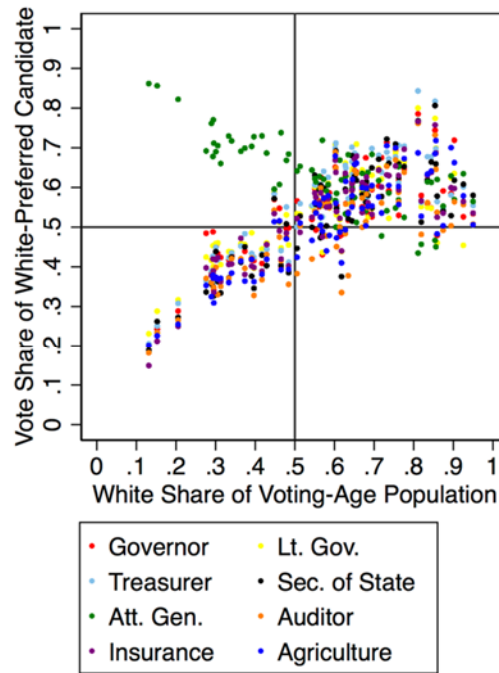
statewide elections in 2007, the correlation between race and voting was quite strong, and again with the exception of the Attorney General race, it was clearly the case that majorities in black and white counties were choosing different candidates.

Figure 4a: County-Level Scatterplot of Black Population Share and Vote Shares of Black-Preferred Candidates, Contested Races in 2007 Mississippi Statewide Election



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Figure 4b: County-Level Scatterplot of White Population Share and Vote Shares of White-Preferred Candidates, Contested Races in 2007 Mississippi Statewide Election



29. Next, let us examine the 2011 election, which is displayed in Figure 5. In this election, the candidates with clear majorities in majority-African-American counties were DuPree for Governor, Moran for Treasurer, Hood for Attorney General, Fondren for Insurance Commissioner, and Gill for Commissioner of Agriculture and Commerce. For white-majority counties, the preferred candidates were Bryant (Governor), Fitch (Treasurer), Simpson (Attorney General), Chaney (Insurance), and Hyde-Smith (Agriculture and Commerce). As in 2003, 2007, and 2015, the correlation between race and voting was quite strong in each 2011 election, and once again, only in the Attorney General election did African-American- and white-majority counties prefer the same candidate.

Figure 5a: County-Level Scatterplot of Black Population Share and Vote Shares of Black-Preferred Candidates, Contested Races in 2011 Mississippi Statewide Election

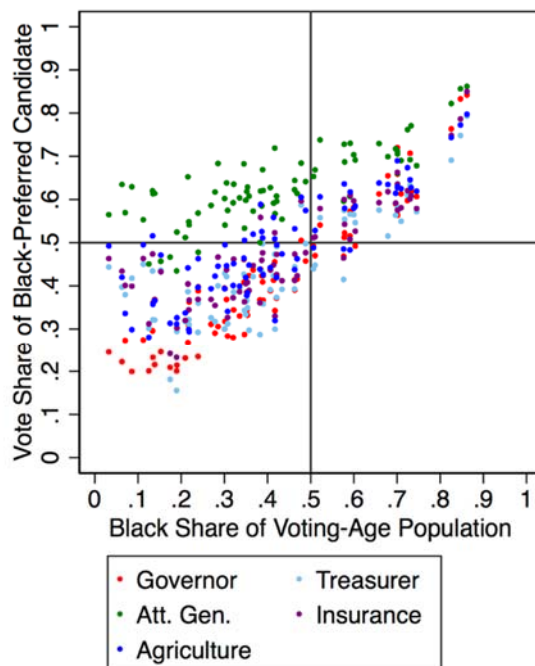
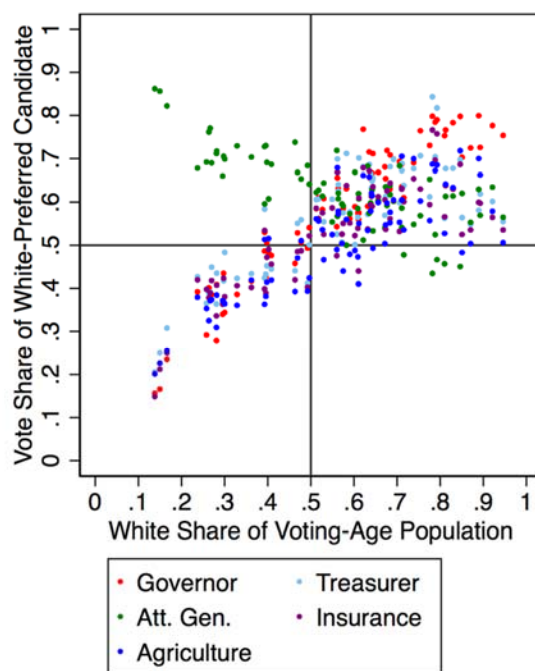


Figure 5b: County-Level Scatterplot of White Population Share and Vote Shares of White-Preferred Candidates, Contested Races in 2011 Mississippi Statewide Election



30. It can be difficult to discern trends over time looking across these different plots. A simple way to summarize the information displayed in Figures 1 through 5 is to estimate a simple linear regression model for each election, where the dependent variable is the vote share of the black-preferred candidate, and the independent variable is the share of the county population that is African American, and the counties are weighted by the size of their population. The coefficient from these models can be understood as the slope of the lines formed by the colored dots in the plots above. For instance, the regression coefficient for the Secretary of State race was .75 in 2015, indicating that a 10 percentage-point increase in the black population share is associated with a 7.5 percentage-point increase in the vote share of Mr. Graham.

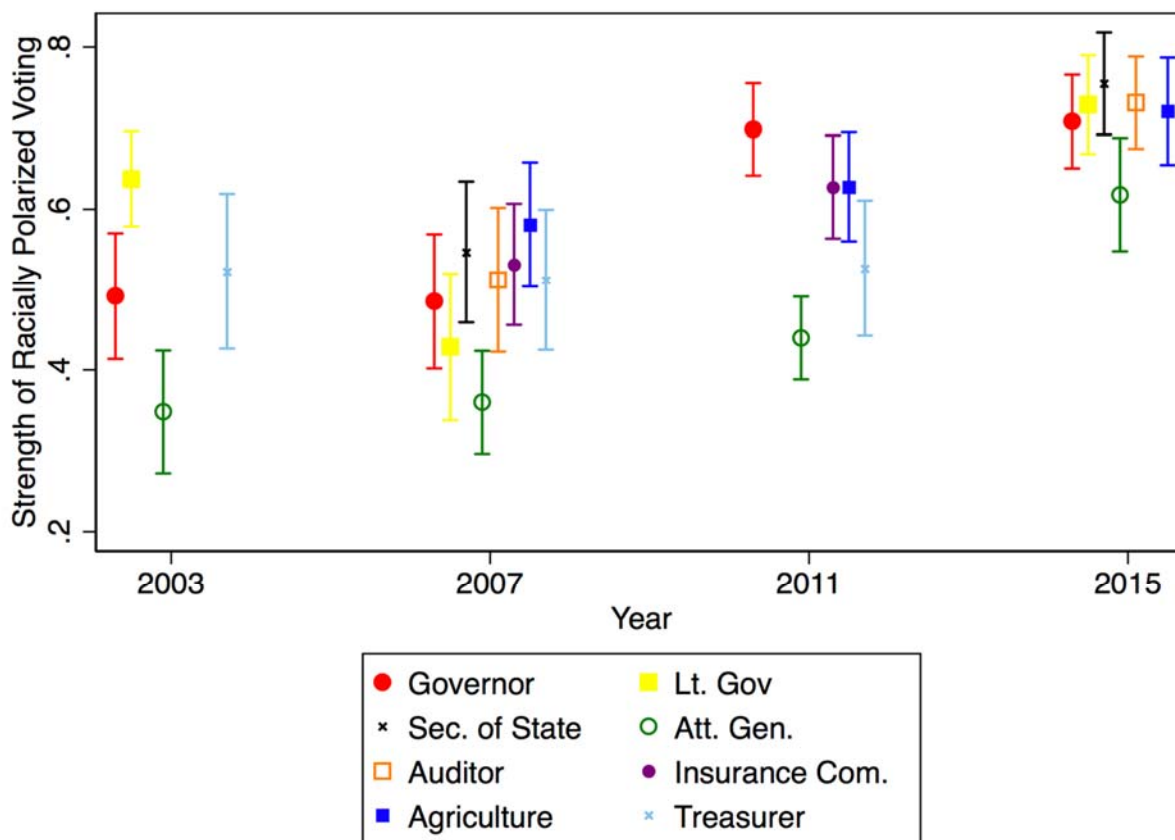
31. We can then examine these coefficients, along with 95 percent confidence intervals, for each contested statewide race since 2003. Figure 6 displays the regression coefficients, where each statewide office is represented by a different color, and the confidence intervals are represented by capped bars.

32. For each year, all of the coefficients are positive and statistically significant for each office. This means that there is a clear county-level relationship between race and voting in statewide races. But note that the relationship has strengthened substantially over time. Racial polarization of county-level voting has expanded, especially between the 2007 and 2011 elections.

33. Looking at the red data markers in Figure 6, we can see that the county-level relationship between race and voting behavior in gubernatorial elections increased dramatically in 2011. Likewise, the correlation between race and voting has increased steadily in elections for attorney general, secretary of state, auditor, insurance commissioner, and commissioner of agriculture. In the most recent 2015 election, the correlation between race and voting was extremely high in all of the races. The coefficient is now above .7 in all races except for Attorney

General. But even in the Attorney General races, in which Jim Hood has been victorious in every election depicted in Figure 6, the county-level correlation between race and his vote share has increased substantially.

Figure 6: Coefficients and Confidence Intervals: Race and Statewide Voting, Mississippi Counties, 2003-2015



B. Ecological Inference Using Precinct-Level Data

34. The county-level analysis above is useful for the establishment of trends over time. The strength of the county-level relationship between race and voting indicates that African Americans and whites almost always prefer different candidates in statewide elections, and this racial polarization is growing over time. But in order to gain a more precise estimate of the rates

at which racial groups vote for their preferred candidates, it is useful to examine data below the level of counties. In cases where federal courts require assessments of voting behavior by racial group, they have come to rely on ecological inference analysis. This procedure utilizes precinct-level information about election results and race to draw deterministic bounds around the plausible range of values of votes cast by African Americans and whites for each candidate in each precinct. That is, we can rule out certain levels of white and African-American vote shares that are impossible given what we know about the numbers in each racial group and the number of ballots cast for the various candidates. Then, a statistical model is used to bring together information from the entire distribution of districts and home in further on the most likely location of these quantities of interest within their deterministic bounds in each precinct. These precinct-level estimates can then be aggregated into a summary estimate of voting by race for the entire state.

35. In collaboration with Stephen Ansolabehere at Harvard University, I have collected precinct-level election results for all U.S. states in 2008, and linked the precinct-level results to digitized precinct boundaries. The data have been archived at the Harvard Election Data Archive, and can be visualized via the Stanford Election Atlas. The Mississippi election data were compiled from the publications of the Mississippi Secretary of State. I have also obtained information about the racial composition of each precinct from the Mississippi Automated Resource Information System (MARIS).

36. After merging these two files together, I was able to conduct ecological inference analysis for each of the 2008 statewide races in Mississippi for which I had data: the U.S. Senate race between Thad Cochran and Erik Fleming, the Special U.S. Senate contest between Roger Wicker and Ronnie Musgrove, and the presidential contest between John McCain and Barack Obama. The results of the analysis are presented in Table 1 below, which provides estimated vote

shares, along with 95 percent confidence intervals, for each candidate among each racial group.

37. The analysis indicates that in each case, African Americans overwhelmingly supported one candidate. The estimate was around 90 percent for both Fleming, an African-American candidate, and Musgrove, a white candidate. Estimated African-American support for Barack Obama in the presidential race was even higher (over 95 percent).

38. Likewise, whites overwhelmingly supported the same candidates (each of whom were different than the African-American-preferred candidate), although their support was more variable across contests. The estimated vote share among whites for Cochrane was 90 percent, 81 percent for Wicker, and 88 percent for John McCain.

Table 1: Estimated Vote Shares of Candidates by Race, Ecological Inference Analysis, 2008 Election

	Whites			African Americans		
	Estimate	Lower CI	Upper CI	Estimate	Lower CI	Upper CI
U.S. Senate						
Cochrane (Rep)	0.907	0.905	0.910	0.097	0.094	0.100
Fleming (Dem)	0.093	0.090	0.095	0.903	0.900	0.906
U.S. Senate Special						
Wicker (Rep)	0.814	0.812	0.817	0.091	0.087	0.094
Musgrove (Dem)	0.186	0.183	0.188	0.909	0.906	0.913
U.S. President						
McCain (Rep)	0.881	0.869	0.885	0.044	0.037	0.061
Obama (Dem)	0.119	0.115	0.131	0.956	0.939	0.941

C. Mississippi State House Districts

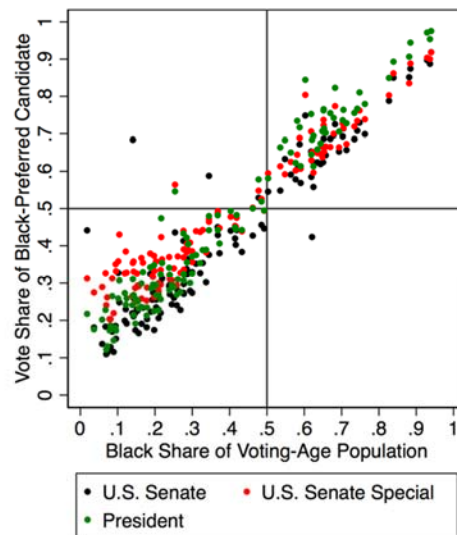
39. County-level and precinct-level analysis are useful, but under the Mississippi

Constitution, the crucial geographic units for determining winners of statewide elections are the Mississippi State House districts. Let us now examine the relationship between race and voting across these districts as well.

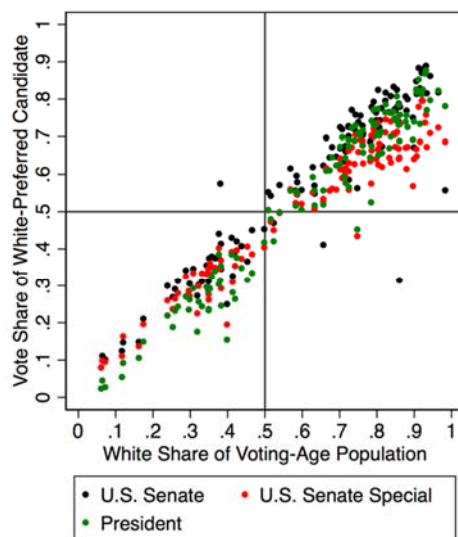
40. To produce Figure 7, I have summed up precinct-level results for each of the three races discussed in the precinct-level analysis above to the level of the Mississippi State House districts that were in place at the time, and I have done the same with population counts by race. The horizontal axis in Figure 7a indicates the share of blacks in the voting-age population (BVAP), and the vertical axis indicates the vote share of the black-preferred candidate in each of the three races mentioned above. Figure 7b does the same for whites, with the y-axis being the white-preferred candidates in each election, all of whom were different from the black-preferred candidates.

Figure 7a: BVAP and Votes for Black-Preferred Candidates, 2008,

Mississippi State House Districts



**Figure 7b: White VAP and Votes for White-Preferred Candidates, 2008,
Mississippi State House Districts**



41. Figure 7 makes it clear that as with the counties, the vote shares of the black-preferred candidates are essentially linear functions of the size of the black voting-age population in the Mississippi House district. The regression coefficient in the presidential election, for example, is over .91.

**Figure 8a: BVAP and Votes for Black-Preferred Candidates, 2015,
Mississippi State House Districts**

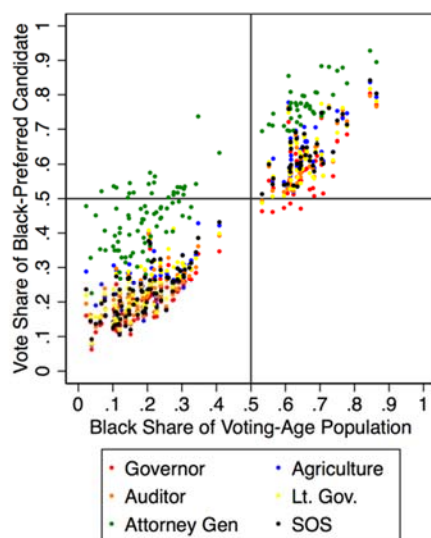
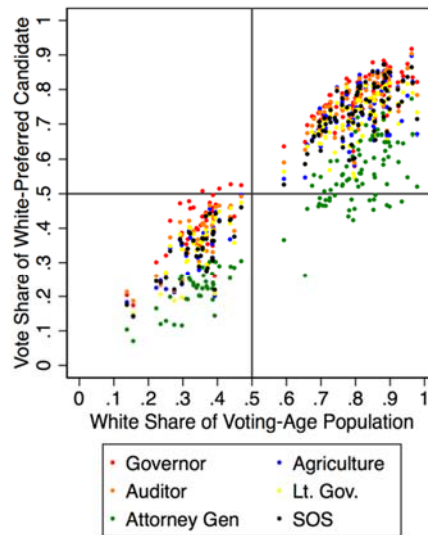


Figure 8b: White VAP and Votes for White-Preferred Candidates, 2015, Mississippi State House Districts



42. While I do not have access to precinct-level data for more recent elections, I do have access to both election results and census-based race estimates at the level of Mississippi House Districts for 2015. The former data were obtained from a publication of the Mississippi Secretary of State, and the latter from MARIS. Figure 8 provides similar plots for 2015, with separate data markers for the various statewide offices contested that year. As in 2008, the vote shares of black-preferred candidates are very close to a simple linear function of the black voting-age population share, indicating that, as we saw above in the county-level analysis, voting is very racially polarized in elections for statewide office. In elections for Governor, Lieutenant Governor, Auditor, Secretary of State, and Commissioner of Agriculture and Commerce, the vote shares of black-preferred candidates track BVAP very closely, which reflects the fact that African Americans vote overwhelmingly for the same set of candidates, and whites vote overwhelmingly for a different set of candidates. For these offices, the regression coefficients are in the range of .8 to .85. Black-majority districts (in the upper right-hand corner of Figure 8a and lower-left corner of Figure 8b) almost always provide majorities for their preferred candidates, and in white-

majority districts (the lower left-hand corner of Figure 8a and upper-right corner of Figure 8b), black-preferred candidates almost always received *less than 40 percent of the vote*.

43. Because voting is typically quite polarized by race in Mississippi, just one black-preferred statewide candidate has been elected in the last decade: Attorney General Jim Hood. The green data markers in Figure 8 demonstrate that, while his support was still strongly correlated with district-level race, as in other statewide contests, Jim Hood's support in the Attorney General election from white voters was substantially higher than that of the other black-preferred candidates. He outperformed those candidates by a rather similar margin throughout most of the state, and by a somewhat larger margin in a handful of districts near his home base in Northeast Mississippi. In fact, there are several green dots in the upper left-hand quadrant of Figure 8a (also the lower right-hand quadrant of Figure 8b). Those dots represent white-majority districts in Northeast Mississippi where Mr. Hood won very narrow majorities. Without winning those districts, Mr. Hood could not have won a majority of electoral votes.

44. The crucial question motivating this report is whether Mississippi's unusual electoral system for statewide offices makes it more difficult for African Americans to elect their preferred candidates than for whites. An important part of the answer can be anticipated by examining Figures 7 and 8. Note the relatively small number of dots in the center of each graph, especially Figure 8. In the current redistricting plan, there are only two districts with BVAP between 35 and 55 percent. District 33 has a BVAP of 41 percent, and District 91 has a BVAP of 53 percent, but otherwise, the middle of the distribution is empty.

45. The "missing middle" in the distribution of African Americans across Mississippi House districts has important implications for representation. Even when a black-preferred candidate wins every single one of the 42 black-majority districts, he or she would need to win an

additional 20 white-majority districts to attain a majority of electoral votes. But of these 80 white-majority districts, all but one are more than 65 percent white. In the presence of pronounced racially-polarized voting, the task of winning 20 overwhelmingly white districts is quite a heavy lift for the black-preferred candidate. This claim will be scrutinized in much further detail below, but first, it is necessary to shed further light on the geography of racial polarization in the districts for the Mississippi House of Representatives.

V. THE DISTRIBUTION OF AFRICAN AMERICANS ACROSS MISSISSIPPI HOUSE DISTRICTS

46. In order to understand why racially polarized voting is important for representation, we must understand the distribution of racial groups across Mississippi's House districts. Figure 9 uses data at the level of census block groups to capture the distribution of African Americans and whites in Mississippi. Each white dot represents 100 voting-age whites, and each black dot represents 100 voting-age African Americans.

47. Most of Mississippi's cities contain both black and white neighborhoods. Rural Mississippi is quite heterogeneous, but African Americans are more numerous in the delta region to the West, and whites more numerous in rural areas on the East side of the state.

48. Figure 10 is a map of voting-age population by race at the level of Mississippi House Districts. The shades of gray get darker as BVAP grows. It shows that the superimposition of State House districts on Mississippi's racial geography yields a set of districts with extremely large black majorities, as well as neighboring districts with very large white majorities. In Figure 10, there are very few districts with medium shades of gray.

Figure 9: The Geographic Distribution of Mississippi Voting Age Population by Race

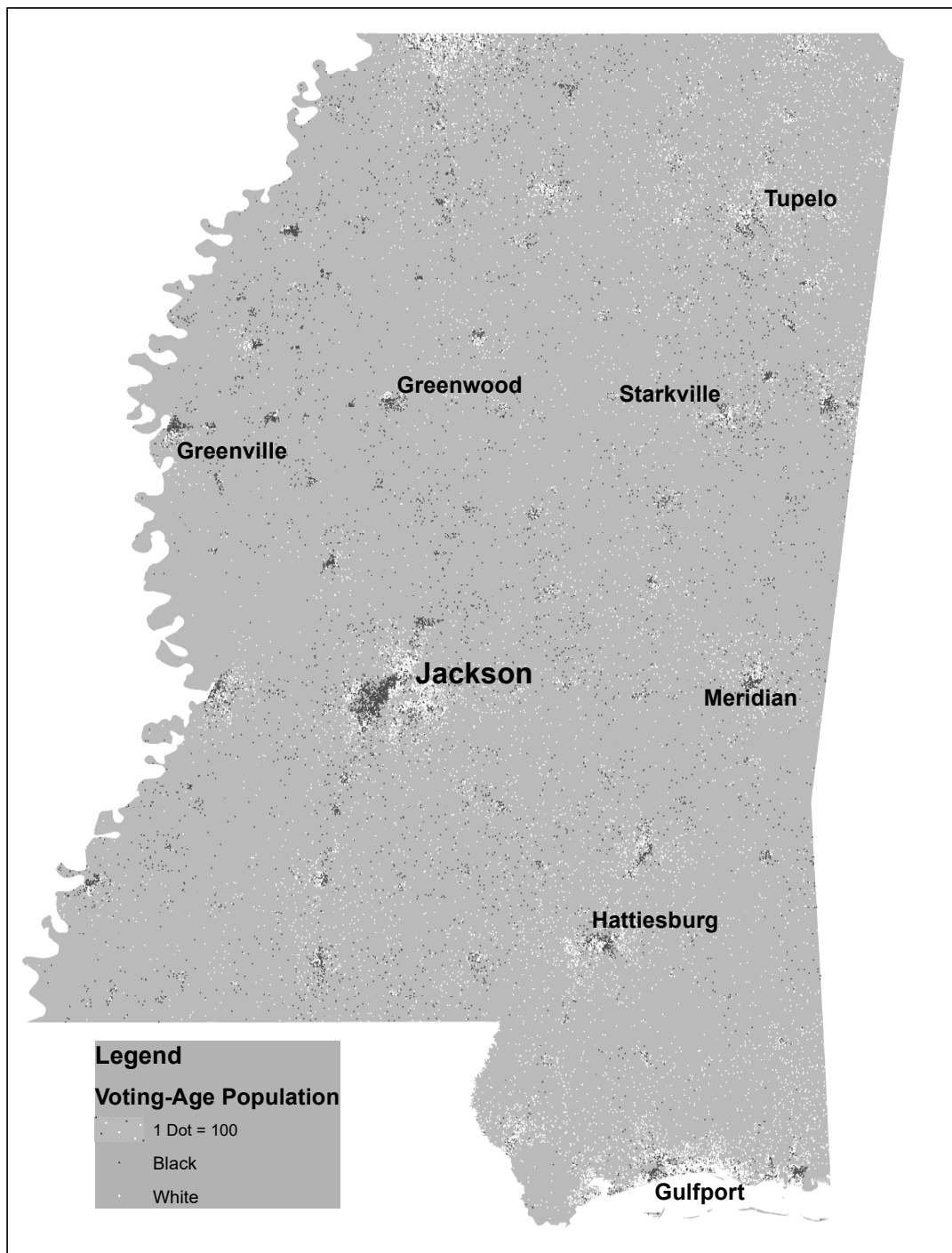
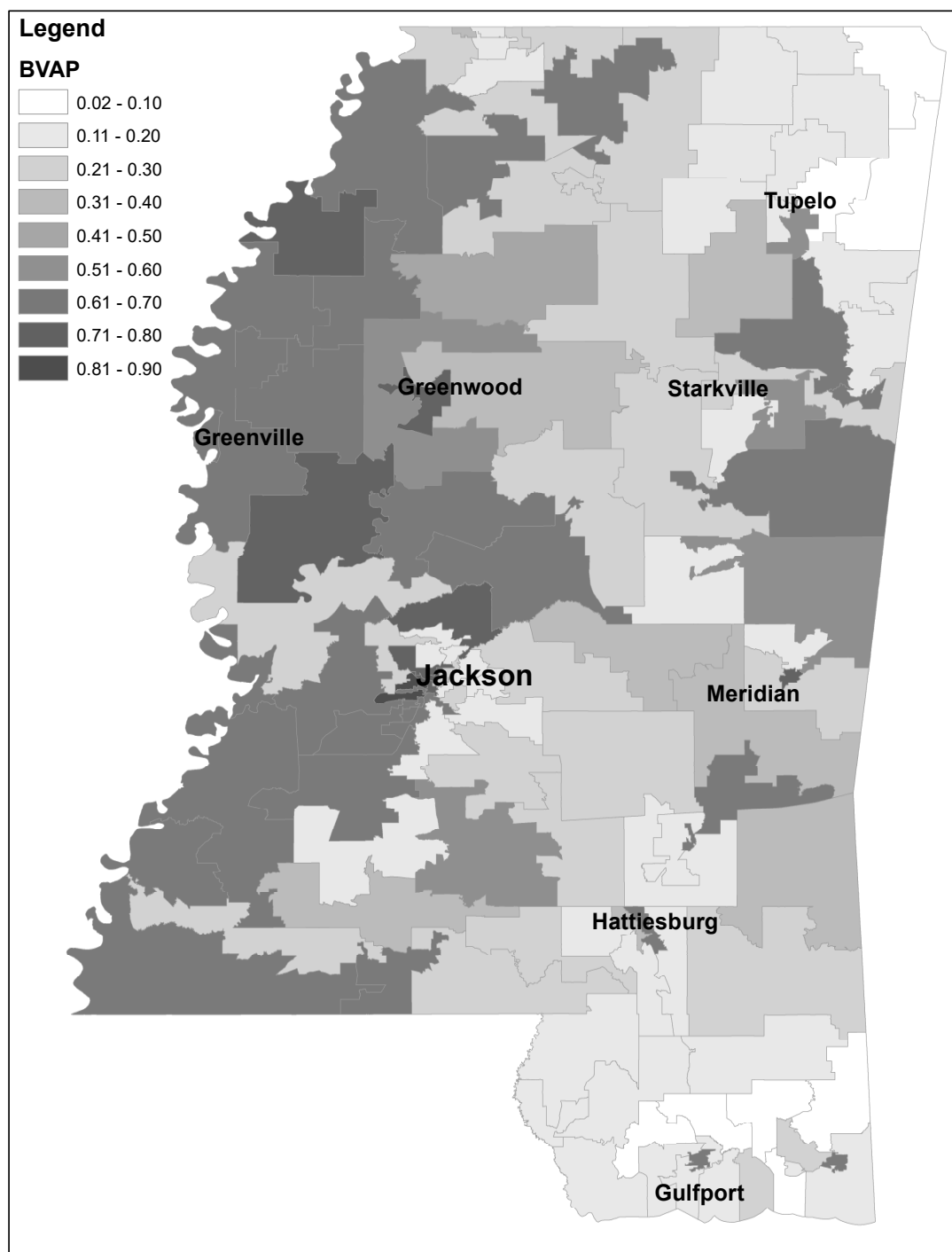
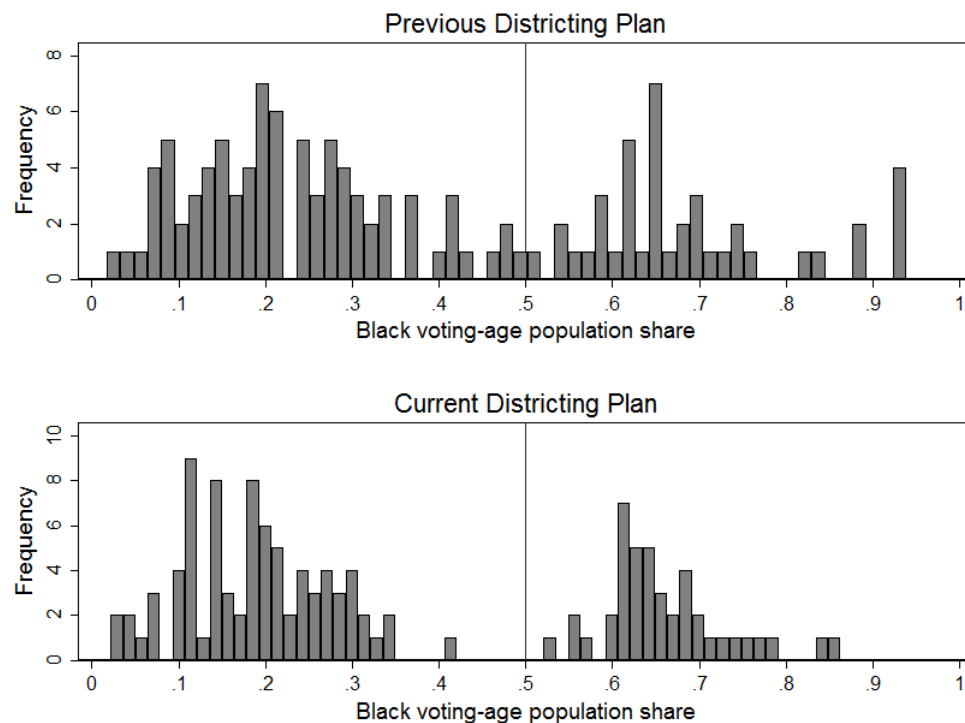


Figure 10: BVAP, Current Mississippi House of Representatives Districts



49. Another way to visualize the distribution of racial groups across districts is to examine histograms. In Figure 11, I present histograms of BVAP across districts not only for the current redistricting plan, but also the one in place during the 2000s. Figure 11 illustrates the extent to which the middle of the distribution contains very few districts in both districting plans—especially the most recent. In the current plan there is a clump of 80 white districts—the vast majority over 70 percent white—on the left side of the graph, and a clump of 42 majority-black districts on the right side of the graph. Districts with a relatively even balance of whites and African Americans are very few in number.

Figure 11: Histograms of BVAP, Mississippi House Districts, Previous and Current Districting Plans



50. It is not the intention of this report to assess whether this pattern resulted from geography, racial gerrymandering, an effort to gain partisan advantage, or some combination of these. Rather, this report explores the implications of this pattern of racial geography, combined

with the patterns of racially polarized voting established above, for the ability of African Americans to elect candidates of choice to statewide office in light of Mississippi's rather unusual rules for selecting statewide officials.

VI. IMPLICATIONS FOR STATEWIDE ELECTIONS

51. Now that we have quantified the extent of racially polarized voting and the geographic distribution of racial groups across districts, we are ready to combine that information to explore the implications for Mississippi's system for electing statewide officeholders. First, it is worth noting that the Mississippi Constitution's district-based electoral vote provision makes little difference in non-competitive elections. A candidate with 60 percent of the popular vote is likely to win a majority of electoral votes no matter how they are distributed across districts. However, the popular vote and the electoral vote can be at odds when elections are relatively close. The crucial question in Mississippi is whether, in the event of a relatively close election when the candidate preferred by African Americans wins the most popular votes, that candidate can also win the electoral vote. And how would that scenario contrast with a situation where the tables are turned, and the candidate preferred by whites was able to win the most popular votes in a close election?

52. There are two good ways to approach this question. First, we can simply take what we know about racially polarized voting and the distribution of groups across districts, and examine what would happen in some statewide scenarios with close elections. Second, we can examine actual 2015 district-level election results and explore hypothetical scenarios in which elections are close.

A. Racially Polarized Voting and Electoral Votes

53. The first approach is straightforward. Based on the ecological inference analysis

above, let us begin by assuming the level of racially polarized voting that has become typical in a Mississippi statewide election, where 90 percent of African Americans vote for the black-preferred candidate, as do somewhere between 10 and 20 percent of whites. Given that 35 percent of the voting-age population is African American and 65 percent is white, either scenario would yield a victory for the white-preferred candidate. If white support for the black-preferred candidate was 10 percent, the white-preferred candidate would win 62 percent of the statewide vote. If it was 20 percent, that vote share would fall to 55.5 percent. We can simply apply the same approach to each individual Mississippi House district and examine how many electoral votes the candidates would receive in each district.

54. As one would anticipate, in either of these scenarios above—in which white support for the black-preferred candidate was 10 or 20 percent—the black-preferred candidate would win only the 42 majority-black districts, and the white-preferred candidate would win the remaining 80 majority-white districts. In other words, 55.5 percent of the popular vote for the white candidate would translate into 66 percent (80 out of 122) of the electoral votes.

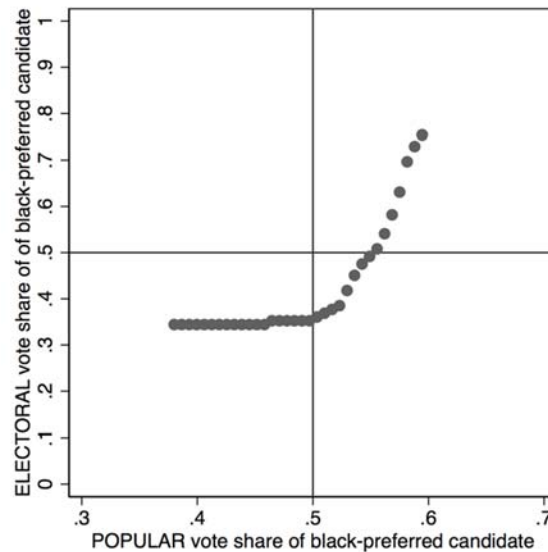
55. Next, let us consider scenarios where statewide elections are more competitive. In Mississippi, this would mean African Americans continue to support their preferred candidate at the typical rate of 90 percent, but white support for that candidate begins to tick up. If 22 percent of whites support the black-preferred candidate, he or she would have 46 percent of the statewide vote. If 26 percent of whites support the candidate, the statewide vote share would move up to 48 percent. If 29 percent of whites support a black-preferred candidate, a very slim popular majority emerges for the black-preferred candidate. And if 35 percent of whites support a black-preferred candidate, the candidate would receive a comfortable 54 percent of the popular vote.

56. But even with these auspicious statewide scenarios, in which a significant portion

of white voters support the candidate preferred by African Americans, the electoral vote presents a serious obstacle for that candidate. With 48 percent of the popular vote, the black-preferred candidate would still be stuck with only 43 electoral votes (35 percent). Just barely winning the popular vote would also not help much: if the black-preferred candidate obtained a popular-vote share just over 50 percent, she would win just one additional electoral vote. Even with a commanding 54 percent of the popular vote, the black-preferred candidate would only receive 58 electoral votes—four electoral votes short of the required 62 for victory. *Only by winning 55.5 percent of the popular vote can the black-preferred candidate finally win the requisite 62 electoral votes.*

57. Recall from above that there is only a single district with BVAP between 35 percent and 50 percent. Thus, beyond the 42 majority-black districts, there are very few districts that are within striking distance for a black-preferred statewide candidate to pick up. Even when racially polarized voting is less pronounced, and a black-preferred candidate gains considerable support among whites and wins a solid statewide majority, the lack of heterogeneous districts means that such a candidate can only win a majority of electoral votes if he or she wins a large number of overwhelmingly white districts.

58. The calculations described above lead to a relationship between statewide vote shares and electoral vote shares that is depicted in Figure 12. The horizontal axis represents the vote share of black-preferred candidates, and the vertical axis represents the corresponding share of electoral votes. On the far-left side of the graph is a typical scenario in which African Americans vote for the black-preferred candidate at a rate of 90 percent, and whites for the white-preferred candidate at a rate of 90 percent. This gives the black-preferred candidate 38 percent of the vote, and 42 of 122 electoral votes (34 percent).

Figure 12: The Popular Vote and Electoral Vote Shares in Mississippi

59. As we move to the right on the graph, racially polarized voting becomes less pronounced, and the vote share for the black-preferred candidate *among whites* begins to increase, which means that the black-preferred candidate’s overall popular-vote share increases. But as the vote share increases, there is no corresponding increase in the electoral-vote share for the black-preferred candidate. This is because of the “missing middle” described above: there are no districts with small white majorities that might flip as larger shares of whites vote for the black-preferred candidate. The share of electoral votes received by the black-preferred candidate does not begin to increase until that candidate receives a majority of the statewide vote, and even then, the increase is slow. The black-preferred candidate must win over 55.5 percent of the vote in order to win a majority of electoral votes. Conversely, the graph reveals that a white-preferred candidate can win a majority of electoral votes even when he or she loses the popular vote. In other words, the system of electoral votes places black-preferred candidates at a very substantial disadvantage.

B. The Distribution of Votes in Observed Elections

60. Based purely on analysis of observed patterns of racially polarized voting and the

distribution of racial groups across districts, we can conclude that black-preferred candidates would find it very difficult to win a majority of electoral votes in the event of a close statewide election. But let us now see if this conclusion holds if we examine the distribution of *actual votes* for statewide candidates across Mississippi's House of Representatives districts in the most recent statewide election.

61. Unfortunately, none of the statewide races in 2015 were especially competitive. Phil Bryant received 66 percent of the vote in the gubernatorial election. Tate Reeves received 60 percent of the vote in the Lieutenant Governor election. Delbert Hosemann received 61 percent of the vote in the Secretary of State election. Stacey Pickering received 64 percent of the vote in the election for State Auditor. Cindy Hyde-Smith received 61 percent of the vote in the race for the Commissioner of Agriculture and Commerce. The Republican candidate for Treasurer was not opposed by a major-party candidate, and the Republican candidate for Commissioner of Insurance was not opposed by any candidate at all. Only one statewide office was won by a black-preferred candidate, but that election was also not especially close: Jim Hood was elected Attorney General with 55.3 percent of the vote.

62. Given the very large majorities won by the white-preferred candidates in all of the elections other than Attorney General, it is not surprising that they also received very comfortable majorities of electoral votes as well. As could be ascertained from Figure 8 above, white-preferred candidates won every electoral vote in all 80 of the majority-white districts in each of these elections. And with one exception, black-preferred candidates won all of the electoral votes in the majority-black districts in all of the contested statewide races.³

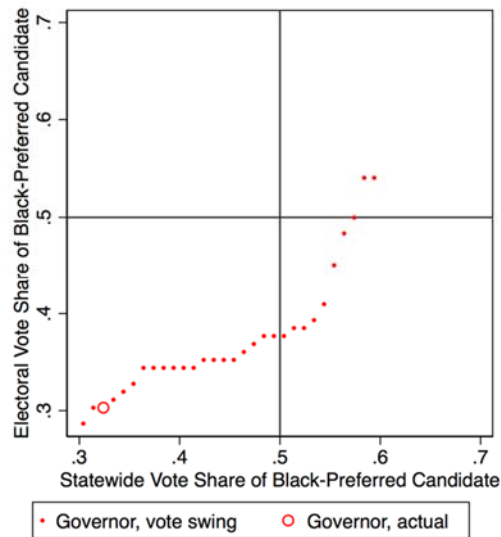
³ Phil Bryant won narrow victories in five of the majority-black districts.

63. But the distribution of votes across districts in these non-competitive elections still provides us with valuable information about how things would turn out in the event of a tighter race. We can simply add a percentage point to the vote shares of black-preferred candidates in each district, and see how many electoral votes the two candidates would receive in that scenario. We can then add two percentage points, and so forth, until we reach an overall statewide electoral-vote majority for the black-preferred candidate. Given the observed distribution of support across districts, in this way we can calculate shares of electoral votes that would obtain under various hypothetical statewide vote shares.

64. Figure 13 conducts this exercise for the 2015 gubernatorial election. It simply plots the electoral vote share that would have been obtained under various alternative scenarios. The *actual* election outcome is marked with a larger open circle, and the *hypothetical* elections with alternative vote shares of the black-preferred candidate are marked with red dots.

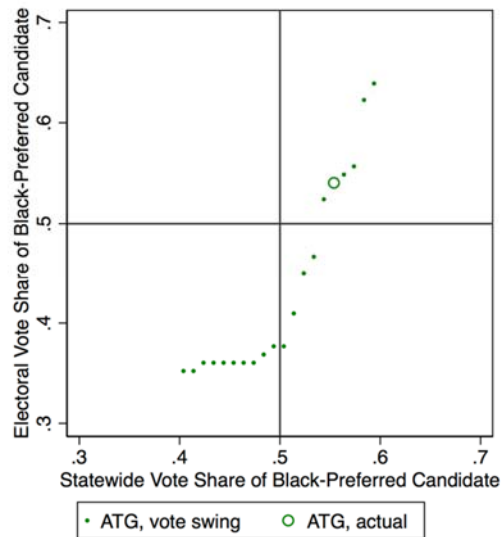
65. Note that the shape of the graph looks strikingly similar to Figure 12 above. Starting at the bottom left with the open circle, we see that in the observed election, the black-preferred candidate received around 32 percent of the vote, and 30 percent of the electoral votes. But as we move to the right on the graph and start considering more successful black-preferred candidates, their share of electoral votes stays remarkably flat. Even if a black-preferred candidate wins a slim majority of the popular vote, it would translate into only 38 percent of the electoral votes. And based on the observed distribution of gubernatorial votes in 2015, even a popular-vote share of 57 percent would not be enough to reach the all-important threshold of 62 electoral votes. *The popular-vote share of the black-preferred candidate would need to surpass 58 percent.*

Figure 13: The Popular Vote and Electoral Vote Shares in the 2015 Mississippi Gubernatorial Election



66. Next, let us turn our attention to the lone black-preferred candidate who was able to win a majority of statewide votes in 2015: incumbent Jim Hood in the race for Attorney General. Recall from above that Mr. Hood outperformed other black-preferred candidates throughout the state. He did so especially in a number of majority-white districts in Northeast Mississippi. But even with 55.3 percent of the popular vote, Mr. Hood was able to win only 66 electoral votes (54 percent). Note that in the gubernatorial analysis above, the white-preferred candidate, Phil Bryant, could expect 79 or 80 electoral votes (around 65 percent) with the same share of the popular vote. Several of the districts in which Mr. Hood achieved an electoral vote were won by very narrow margins, and had he won just four fewer districts, section 141 of the Mississippi Constitution would have been triggered, and the Attorney General would have been selected by the House of Representatives rather than the voters.

Figure 14: The Popular Vote and Electoral Vote Shares in the 2015 Mississippi Attorney General Election



67. In other words, Mr. Hood needed almost 55 percent of the popular vote to win the narrowest possible majority of electoral votes. Following the same logic as Figure 13, Figure 14 considers what would happen if Mr. Hood's support shifted down by one percentage point, two percentage points, and so forth. It shows that with 54.3 percent of the popular vote, he could have won 64 electoral votes (52 percent), but with any smaller share of the popular vote, he would have lost his electoral-vote majority. With 53.3 percent of the popular vote, Mr. Hood would have received only 57 electoral votes (47 percent).

68. It is worth noting that Mr. Hood is running for governor, and polls indicate that the election is likely to be quite close.⁴ Based on this analysis of 2015 elections, Mr. Hood would need to win a rather large statewide majority in order to win the electoral vote.

69. There was nothing exceptional about the 2015 gubernatorial or Attorney General elections. If we extend the analysis to the elections for Lieutenant Governor, Secretary of State,

⁴ Reid Wilson, *Poll Finds Dead Heat in Mississippi Governor's Race*, THE HILL (Feb. 6, 2019), <https://thehill.com/homenews/campaign/428718-poll-finds-dead-heat-in-mississippi-governors-race>.

Auditor, or Commissioner of Agriculture, we see the same thing: if the black-preferred candidate won 50 percent of the popular vote, he or she would win only 46 or 47 electoral votes—far short of the 62 needed for victory.

VII. THE MISSISSIPPI HOUSE OF REPRESENTATIVES

70. In short, due to patterns of racially polarized voting and the distribution of racial groups across Mississippi House districts, even a black-preferred candidate that manages to attract votes from a sizable share of the white population, thereby winning a majority of the statewide popular vote, would find it difficult to win a majority of electoral votes. When he or she fails to do so, the winner would be selected by the Mississippi House of Representatives. But when the choice is placed with the Mississippi House of Representatives, the same pattern of racially polarized voting and the same geographic distribution of racial groups would also very likely then undermine the prospects of the black-preferred candidate.

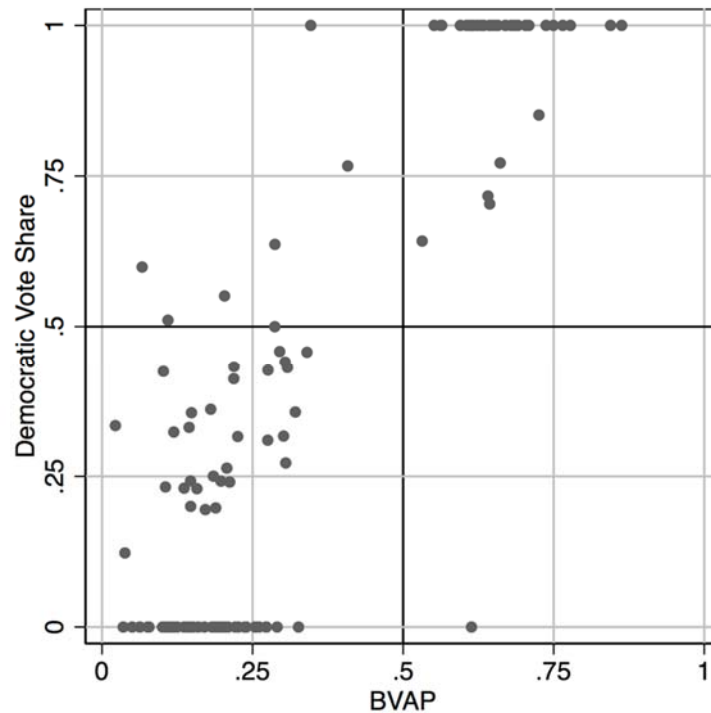
71. It is possible, however, that members of the Mississippi House of Representatives could in some way be immune to the trend toward racially polarized voting demonstrated above for federal and statewide offices. One might surmise that elections for the Mississippi House of Representatives are more personalized and, thus, to a certain extent, detached from broader statewide patterns of racially polarized voting. If that is the case, it is possible that even while black-preferred candidates fail to win a majority of House districts in statewide races, they might have better success in individual House elections. One might imagine a situation, for example, in which all 42 majority-black districts elect black-preferred candidates, and in which perhaps in 20 of the 80 districts with overwhelming white majorities, a sufficiently large number of whites might coalesce with local black voters to elect black-preferred candidates. In that scenario, a majority of House members might favor a black-preferred statewide candidate.

72. Election-results data, however, suggest that this scenario is unlikely to occur. District-level election results are not quite as meaningful in state legislative races as in statewide races, since the quality of candidates varies widely across districts, and since a large number of races are uncontested. In the most recent election, for instance, 81 seats were uncontested (67%). Keeping this in mind, we can once again examine a plot of the district-level election results against district-level racial data.

73. Figure 15 plots the black share of voting-age population on the horizontal axis, and the vote share of each Democratic candidate in the 2015 Mississippi House of Representatives elections on the vertical axis. We can see that only five of the 42 majority-black districts were actually contested, and 36 of the 80 majority-white districts were contested. Democrats represented all of the majority-black districts but one. And the vast majority of white-majority districts are represented by Republican candidates. There are only six observations in the upper left-hand quadrant of Figure 15, meaning that there are just six majority-white districts where Democratic candidates—usually long-serving incumbents—emerged victorious.

74. The important question for this analysis is whether it is likely that, in the event of a statewide swing toward the Democratic Party, a sufficient number of dots in the lower-left quadrant might migrate up to the upper-left quadrant and create a legislative majority under the Democratic Party label that might appoint a black-preferred candidate to statewide office under section 141 of the Mississippi Constitution. These data show that it would be extremely unlikely.

Figure 15: BVAP and Democratic Vote Share, 2015 Mississippi State House of Representatives Election



75. If each of the contested districts swung by a truly remarkable 10 percentage points in favor of the Democrats, they would still have won just 56 of 122 seats. A 15-point swing would yield only 59 seats. The Democrats would need to benefit from an extraordinary 18-point swing in order to win 62 seats in the House. In other words, a Democratic majority that might choose a black-preferred statewide candidate in the Mississippi House of Representatives would require a truly remarkable electoral earthquake.

76. In sum, even if a black-preferred candidate won the most votes in a statewide election but did not garner a majority of electoral votes, it is extremely unlikely that the membership of the Mississippi House of Representatives would select as the winner the black-preferred candidate.

VIII. THE STATEWIDE MAJORITY REQUIREMENT

77. As noted above, beyond imposing a unique electoral-vote system, the Mississippi Constitution also removes the selection process from the voters and sends it to the House if no candidate wins a majority of the popular vote. This provision also makes it harder for African-Americans voters to elect their preferred candidates when compared to white voters. Because of the substantial advantage white voters have in the House, *any* provision that makes it more likely that Section 141 will be triggered—thereby sending the election to the House—reduces the probability that a black-preferred statewide candidate takes office.

78. All of the analysis presented above proves that African Americans are extremely cohesive in their voting for statewide candidates, even more so than whites are in their voting.

79. Cohesive minorities often benefit from fragmentation among the majority. For instance, imagine a community where the white majority is 60 percent of the voting population, the black minority is 40 percent, and the school board is composed exclusively of white-preferred candidates. Imagine there is a single winner-take-all seat up for a school board election, and there are three candidates. If black voters are perfectly cohesive in their support for one of the candidates, but whites split their votes evenly among the other two candidates, the black-preferred candidate would win with 40 percent of the vote, while the white-preferred candidates each received 30 percent. However, if the school board instituted a rule that allowed the sitting school board members to appoint new members in the absence of a candidate with a majority of votes, the cohesive minority would be deprived of this path to victory. It is clear that in communities where minority voters are more cohesive than white voters, a majority requirement would make it much harder for minorities to capitalize on less cohesive behavior among whites and elect candidates of choice.

80. Party fractionalization in Mississippi statewide elections is not just a hypothetical scenario. Both the Reform Party and the Libertarian Party regularly run candidates in statewide races, and the Constitution Party has done so in the recent past. In 2011, Reform candidates received 3 percent of the statewide vote in the races for Treasurer, 3.4 percent in the race for Commissioner of Insurance, 2.5 percent in the race for Commissioner of Agriculture. In 2015, the Reform candidate received 1.4 percent in the gubernatorial election, 3 percent in the Secretary of State election, 1.3 percent in the Auditor election, and 2.1 percent in the Commissioner of Agriculture and Commerce election. In the 2015 race for Lieutenant Governor, the combined vote share of the Libertarian and Reform candidates was 3.6 percent. In 2007, the candidate for the Constitution Party received 6.6 percent of the vote in the race for Commissioner of Agriculture and Commerce. In 2003, there were five parties competing in the gubernatorial election, and the Reform Party candidate received 5.5 percent of the vote in the Secretary of State election.

81. Mississippi statewide elections are not frequently determined by the House of Representatives for the simple reasons that they are infrequently close. If small parties continue to run candidates in statewide elections, and an especially popular black-preferred candidate ends up in a competitive race with a white-preferred candidate, the latter has an enormous advantage if the small-party candidates can win two or three percentage points and throw the election to the House of Representatives.

IX. CONCLUSIONS

82. In recent decades, voting in Mississippi has become quite polarized. County-level data reveal that race was already correlated with voting in the early 2000s, but polarization has grown over time, with a recent significant jump after 2008. In recent years, the correlation between race and voting behavior in statewide elections has been extremely strong.

83. African Americans and whites are distributed across the districts of Mississippi's House of Representatives such that each group is quite clustered in relatively homogeneous districts. Given the pronounced racially polarized voting in Mississippi, this means, in practice, that statewide candidates preferred by African Americans typically win in the 42 majority-black districts, and candidates preferred by whites win in the remaining 80 districts with a majority-white population.

84. Even when African-American-preferred candidates win statewide majorities by obtaining support among a non-trivial minority of the white population, which sometimes happens, the distribution of racial groups across districts is such that African-American-preferred candidates will often be unable to win a majority of electoral votes. They must win around 55 percent of the popular vote in order to win a majority of electoral votes. By contrast, white-preferred candidates only need around 45 percent of the popular vote to do so. If a black-preferred candidate wins a slim majority of the popular vote, he or she will come nowhere near receiving a majority of electoral votes.

85. The Mississippi Constitution also calls upon the House of Representatives to choose a winner in the event of a close election in which no candidate receives a majority of the popular and electoral votes. Due to the distribution of racial groups across districts and the associated structural advantage for white-preferred candidates (currently Republicans) in the Mississippi House of Representatives, white-preferred candidates are extremely likely to be appointed in cases where the House is called upon to choose the winner.

86. All of this means that the requirements for victory are quite different for candidates preferred by whites than they are for candidates preferred by African Americans. A white-preferred candidate needs merely to win a bare majority (50 percent plus one) of the statewide vote

in order to have an excellent chance of taking office. In fact, a white-preferred candidate *still* has a very good chance of taking office if he or she *loses* the popular vote in a tight election. In contrast, for black-preferred candidates, a plurality is not nearly enough for victory. Nor is a small popular majority. Even a comfortable statewide victory of two, three, and perhaps even four percentage points is insufficient.

87. In all, Sections 140, 141, and 143 of the Mississippi Constitution confer a substantial advantage on white-preferred candidates in statewide races.

#

I reserve the right to continue to supplement my declaration in light of additional facts, testimony and/or materials that may come to light.

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury of the laws of the United States that the foregoing is true and correct according to the best of my knowledge, information and belief.

A handwritten signature in black ink, appearing to read 'Jonathan Rodden', written in a cursive style.

Executed on: May 29, 2019

JONATHAN RODDEN