UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF OHIO
EASTERN DIVISION

Case No. 2:14 CV 00404

OHIO STATE CONFERENCE OF THE NATIONAL ASSOCIATION FOR THE ADVANCEMENT OF COLORED PEOPLE, LEAGUE OF WOMEN VOTERS OF OHIO, BETHEL AFRICAN METHODIST EPISCOPAL CHURCH, COLLEGE HILL COMMUNITY CHURCH PRESBYTERIAN, U.S.A., OMEGA BAPTIST CHURCH, A. PHILIP RANDOLPH INSTITUTE, and DARRYL FAIRCHILD,

Plaintiffs,

v.

JON HUSTED, in his official capacity as Ohio Secretary of State, and MIKE DEWINE, in his official capacity as Ohio Attorney General,

Defendants.

Judge Peter C. Economus

EXPERT REBUTTAL DECLARATION OF DR. DANIEL A. SMITH

A. Using a Triangulation of Ecological Inference Techniques and Survey Data Helps Explain EIP Absentee Voting Rates of Blacks and Whites in Ohio

My original Report, "Analysis of Effects of Senate Bill 238 and Directive 2014-06 on Early In-Person Absentee Voting by Blacks and Whites in Ohio," establishes that there is a differential rate in the use early in-person (EIP) absentee voting by blacks and whites in recent elections in Ohio.[1] I have reviewed the reports of Defendants' experts, Dr. Brunell, Dr. McCarty, and Mr. Trende, and they do not change my overall conclusion that black voters in Ohio use EIP voting at higher rates than white voters in recent elections.

My Report draws entirely on publicly available data, follows prevailing professional standards, employs statistical methods used by fellow political scientists, and presents its findings in a clear and transparent manner. Using a combination of aggregate-level and individual-level data, I rely on three standard ecological inference techniques to draw inferences about the EIP absentee voting rates of blacks and whites in Ohio. Each of these methods is sound and appropriate. My findings across these different methods are consistent, reinforcing their validity and reliability. The conclusions I draw are supported by the data and these established empirical methods.

I supplement the ecological inference analysis in my Report by drawing on individual-level data from the November 2008 and November 2012 Current Population Survey (CPS) conducted by the U.S. Census Bureau. The findings from the 2012 survey of Ohio voters corroborate the findings from the three ecological inference methods I use to analyze racial

[1] Dr. Brunell is incorrect in stating, "Smith analyzes black voters, so the excluded group [sic] all of his comparisons are to are non-blacks (i.e. whites, Asians, Hispanics, and others)" (p. 4, footnote 1). In fact, as I detail in my Report, all three ecological inference methods I use to analyze data from the 2010 and 2012 General Elections in Ohio, as well as my individual-level analyses of 2008 and 2012 U.S. Census Bureau Current Population Survey data, make comparisons between black EIP absentee voters and white EIP absentee voters.

patterns of EIP absentee voting in the 2012 General Election, and the findings from the 2008 survey further reinforce my conclusions in my original Report.

In short, my Report is a transparent and conscious example of "triangulation," whereby I employ empirical evidence derived from more than one type of data and use more than one standard social science method.[2] As I show here, the conclusions I draw in my Report withstand the criticisms of Dr. McCarty, Dr. Brunell, and Mr. Trende.[3] Indeed, after addressing their criticisms, my original conclusion that the EIP absentee voting rate of blacks exceeds that of whites in Ohio remains strong, and I continue to find that any reduction in EIP absentee voting in Ohio will disproportionately affect black voters because of their greater reliance on this method of voting.

B. Regression is an Appropriate Technique to Estimate the Relationship between Black VAP and EIP Voting Rates in Ohio in Conjunction With Other Analyses

The Ohio Secretary of State does not include racial information on individual voters in their publicly available state voter file. Consequently, in assessing race-based rates of EIP absentee voting, I am forced to rely primarily on aggregate data on race that I draw from the U.S.

[2] Henry E. Brady and David Collier, *Rethinking Social Inquiry: Diverse Tools, Shared Standard*s, 2nd ed. Boulder: Rowman and Littlefield, 2010, p. 356. I purposely offer all three ecological inference techniques as each has its own limitations, or "drawbacks," as Dr. McCarty notes in his Response (p. 3). A classic example of scholars using a triangulated approach to assess a real-world election puzzle without individual-level data on vote choice is Jonathan N. Wand, Kenneth W Shotts, Jasjeet S. Sekhon, Walter R. Mebane, Jr., Michael C. Herron, and Henry E. Brady, "The Butterfly Did It: The Aberrant Vote for Pat Buchanan in Palm Beach County, Florida," *American Political Science Review* (2001): 793-810. See also Charles S. Bullock, III, "Partisan changes in the southern congressional delegation and the consequences." In David W. Brady, John F. Cogan, and Morris Fiorina (eds.), *Continuity and Change in House Elections*, Stanford, CA: Stanford University Press, pp. 39–64; Claudine Gay, "The Effect of Black Congressional Representation on Political Participation," *American Political Science Review* (2001): 589-602; D. Stephen Voss and David Lublin, "Black incumbents, white districts: An appraisal of the 1996 congressional elections," *American Politics Research* (2001): 141–82.

[3] Mr. Trende mentions my work only in passing and as such I do not focus much attention on his Response.

Census and voting data from the state of Ohio and county Boards of Elections. Relying on aggregate data to ascertain information about individuals is known as ecological inference.

Dr. McCarty's primary criticism of my regression analysis is that the relationship is "not very strong" (p. 4). But he agrees that the weighted regressions in Figure 1 and Figure 2 in my Report show that the "EIP absentee voting rate of blacks exceeds that of whites," that "approximately 20% of African-American voters cast an early in-person vote while only about 10% of white voters did so," and that "black EIP voting rates were higher than that of whites on the days of the EIP voting period that SB 238 and Directive 2014-06 would eliminate" (p. 2). And Dr. McCarty affirms that my regression analysis of EIP voting rates by race in the 2012 General Election "estimates a positive relationship between these two variables indicating that there are greater levels of EIP voting in census blocks with a higher percentage of African-Americans" (p. 3).

Dr. McCarty contends that, "There are many reasons to suspect that decisions about electoral participation might be affected by the local racial context," and he explicitly mentions "factors that correlate with local racial heterogeneity" like "age, education, income, and urban density" (p. 5). Dr. McCarty refers to these as "other logical possibilities" (p. 4). However, Dr. McCarty does not test for the presence of any of these possible confounds. Nor does Dr. McCarty present evidence that their presence would be pivotal to the conclusions in my Report. In fact, Dr. McCarty's suggestion about correlates is a red herring, as the issue in this litigation is whether there are racial disparities in EIP absentee voting rates in Ohio, not whether differential EIP absentee voting rates happen to be correlated with education, income, age, voter mobilization, or some other characteristic found within census blocks. Possible confounds such as these do not minimize the conclusions I draw from the weighted regressions, namely, that EIP

absentee voting rates in 2012 are higher in census blocks with higher proportions of black VAP, including on days scheduled to be eliminated by SB 238 and Directive 2014-06.

Dr. McCarty observes that Figure 1 in my Report has "huge variation in EIP rates for every level of black VAP" (pp. 3-4). To the extent that I understand what Dr. McCarty means when he writes that the variation is "huge," he does not explain why the presence of variance is a problem. Indeed, regression formulas take into consideration the variance of the quantities they use. And when such variance is taken into account across 84 Ohio counties I analyze in my Report,[4] and after weighting for turnout by census block,[5] for every 10 percentage point increase in black VAP at the census block level, the EIP absentee voting rate increases by more than one percentage point in the 2012 General Election. Dr. McCarty does not dispute that this correlation is statistically significant.

Dr. McCarty notes that "whites who live in racially mixed neighborhoods may be more likely to utilize EIP voting than whites who live in homogeneous white neighborhoods" (p. 4).[6] Of course this is a possibility, but Dr. McCarty provides no evidence that this is the case.

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[4] For reasons I explain in my Report, all of the empirical analyses conducted for the 2012 General Election omit four of Ohio's 88 counties (Adams, Hancock, Ottawa, and Van Wert) due to data limitations. According to the 2010 U.S. Census, these four counties comprise only slightly more than 1 percent of the total population in Ohio and had a total of 1,544 blacks. This accounts for only 0.11 percent of the total black population in the state. See United States Census Bureau, American Fact Finder, 2010 Census, available at: http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

[5] As I state in my Report, all four regressions (as shown in Figures 1, 2, 7, 8) are weighted by turnout at the census block level. Dr. Brunell is incorrect on this point, saying on p. 7 of his Response, "Another issue with the analyses in Figures 8 and 9 [sic] is that I do not think that Smith weights these results by turnout." Furthermore, Dr. Brunell mistakenly cites Figure 9 in his criticism; Figure 9 reports the daily votes cast using homogeneous area analysis in the 2010 General Election, and does not present (nor does it purport to present) a regression, weighted or otherwise.

[6] Focusing on my definition of the EIP voting rate, Dr. McCarty suggests "the relationship between the EIP rate and the black VAP may be driven by changes in participation by election-day voters" (p. 4). But Dr. McCarty puts forward no evidence to support his speculation that as the percentage of black VAP increases, black Election Day participation drops while EIP voting remains the same. And he completely misses the point of this analysis, which is to observe trends and to draw reasonable inferences based on those trends in conjunction with other indicators; not to conclusively rule out every fanciful hypothetical that anyone can think of, no matter how unlikely.

Furthermore, it is important to note that the reality in Ohio is that there are relatively few racially mixed "neighborhoods," mitigating Dr. McCarty's assertion. According to the 2010 U.S. Census, of the more than 240,000 census blocks in Ohio with at least some voting age population, over *three-quarters* (75.7 percent) have at least 90 percent white VAP, and over 55 percent are completely homogeneous, that is, they have 100 percent white VAP.[7]

C. Dr. McCarty's County Level Analysis Suffers from Aggregation Bias

Dr. McCarty suggests that regressions in my Report using census block data may suffer from the ecological inference problem of aggregation bias. But concerns about aggregation bias led me to focus on the smallest possible geographic unit for which I have useable data—the census block.

After Dr. McCarty raises the problem of aggregation bias, he then curiously uses data from my Report to "aggregate *up* from the census block to a higher level of aggregation," namely the *county* (pp. 5-6, Figure 1 (emphasis added)). This dramatically worsens the problem of aggregation bias by suggesting that what is true of a *far larger geographical unit*—the county—is true of the many diverse types of neighborhoods throughout the county. Exacerbating the aggregation bias in Dr. McCarty's county-level regression is the fact that there is very little variation in the racial composition of registered voters at the county level (no Ohio county has more than 30 percent black VAP), which in and of itself will misleadingly make any correlation between EIP absentee voting rates and black VAP seem weak.[8]

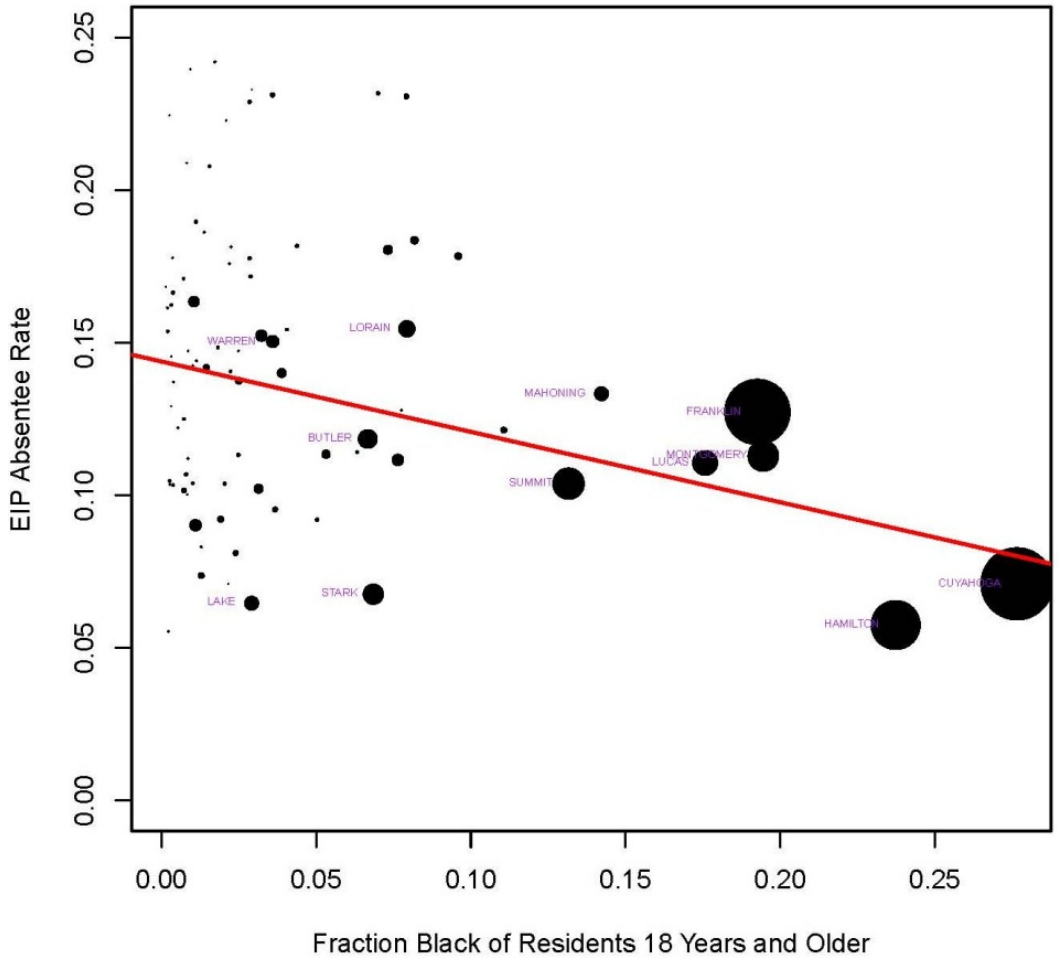
[7] Over 8.41 million voting age people reside in the more than 209,000 Ohio census blocks in the 84 counties analyzed in my Report. Of these, over 5.52 million voting age people (65.7 percent) live in the more than 177,000 census blocks with at least 90% white VAP.

[8] It appears that Dr. McCarthy incorrectly labeled the x-axis of his Figure 1 in his Response (p. 6). Rather than "% Black VAP" it appears that he actually plots the fraction of black VAP in a county, as the range ("0.0 to 0.3") in his plot. If expressed as a percentage, the x-axis range should be from 0 to 30%.

To illustrate the magnitude of the aggregation bias in Dr. McCarty's county-level analysis, I note two outliers in his Figure 1 (p. 6). As with Dr. McCarty's county-level analysis, the slope of the weighted (by turnout) regression shown in Figure 1M is negative and significant (Coefficient fraction black VAP = -0.231; se = 0.042). The size of dots is proportional to turnout at the county level. These two outlier counties (shown in Figure 1M, below) have much higher than average black VAP but much lower than average overall EIP absentee voting rates. The findings suggest that whites in these two counties had much higher EIP absentee voting rates in the 2012 General Election than blacks in these two counties, Cuyahoga and Hamilton (as shown below). However, this dramatically belies the reality on the ground in Cuyahoga County,[9] and also in Hamilton County to the extent racial voting patterns in urban counties are similar. There can be dramatic racial disparities in EIP voting rates within counties, even if the *overall* EIP voting rate in a county is low.

[9] See Russell Weaver and Sonia Gill, "Early Voting Patterns by Race in Cuyahoga County, Ohio: A Statistical Analysis of the 2008 General Election," *Voting Rights Research Brief*, Lawyers' Committee for Civil Rights Under Law, October 2012. Available: http://www.lawyerscommittee.org/admin/site/documents/files/EarlyVoting_Cuyahoga_Report.pdf.

Figure 1M: EIP Absentee Voting Rates and Black VAP, Ohio Counties, 2012 General Election



As Dr. McCarty presumably is aware, the ease with which the sign of a correlation can flip direction increases when moving from one level of aggregation to a higher level of aggregation, precisely because the estimated data are further from the individual level.[10] As such, my approach using census blocks to estimate black and white EIP rates is far preferable to Dr. McCarty's county-level analysis.

[10] See William S. Robinson, "Ecological Correlation and the Behavior of Individuals," *American Sociological Review* (1950): 351–57. Robinson showed that aggregation bias can lead to the sign of an individual-level correlation to flip signs when aggregated. Gary King writes that Robinson's article "remains one of the most influential works in social science methodology." See, Gary King, *A Solution to the Ecological Inference Problem: Reconstructing Individual Behavior from Aggregate Data*. Princeton: Princeton University Press, 1997, p. 4.

D. Additional Regressions Estimating the Relationship between Black VAP and EIP Voting Rates in Ohio Confirm Greater Levels of EIP Absentee Voting in Census Blocks with Higher Black VAP

In response to Dr. McCarty's concerns over aggregation bias, I offer two additional ecological inference regressions.

Regression with County Fixed Effects

First, I rerun my original regressions (weighted by turnout) at the census block level with county fixed effects (meaning that the regression includes dummy variables for Ohio's counties). This takes into consideration the possibility that Ohio's counties may have different characteristics that independently affect EIP absentee voting rates of blacks and whites within counties.

The substantive results of the weighted regressions for both the 2012 and 2010 General Elections continue to hold when adding county controls. In fact, the findings are even stronger than those in my original Report. For the 2012 General Election, with county fixed effects, the coefficient for black VAP in the weighted (by turnout) regression is positive and statistically significant (Coefficient fraction black VAP = 0.198; se = 0.001. This is also the case with the weighted regression results with county controls for the 2010 General Election (Coefficient fraction black VAP = 0.050; se = 0.001). In sum, for both the 2012 and 2010 General Elections, the EIP absentee voting rate in a census block increases as the percentage of black VAP in the census block increases.

Regression Using Census Tract as the Unit of Analysis

Again assuming that aggregation bias at the census block level is worthy of concern, as a second check against such bias I use data aggregated at the level of the *census tract* rather than

the smaller census block unit of analysis used in my original Report.[11] As Figures 1T and 7T reveal (below), the rate of EIP absentee voting in both the 2012 and in 2010 General Elections increases as the percentage of black VAP across census tracts increases, for all early voting days in both election years. The size of dots is in the Figures below are proportional to turnout at the census tract level. For the 2012 census tract weighted (by turnout) regression (Figure 1T), the coefficient for black VAP is positive and statistically significant (Coefficient fraction black VAP = 0.124; se = 0.007). The same is true for the 2010 census tract weighted (by turnout) regression, Figure 7T (Coefficient fraction black VAP = 0.041; se = 0.003).

[11] For detailed information about census tracts, see: United States Census, "Geographic Terms and Concepts - Census Tract," available: https://www.census.gov/geo/reference/gtc/gtc_ct.html.

Figure 1T: Black VAP Census Tracts and EIP Absentee Voting Rates in Ohio, 2012 General Election

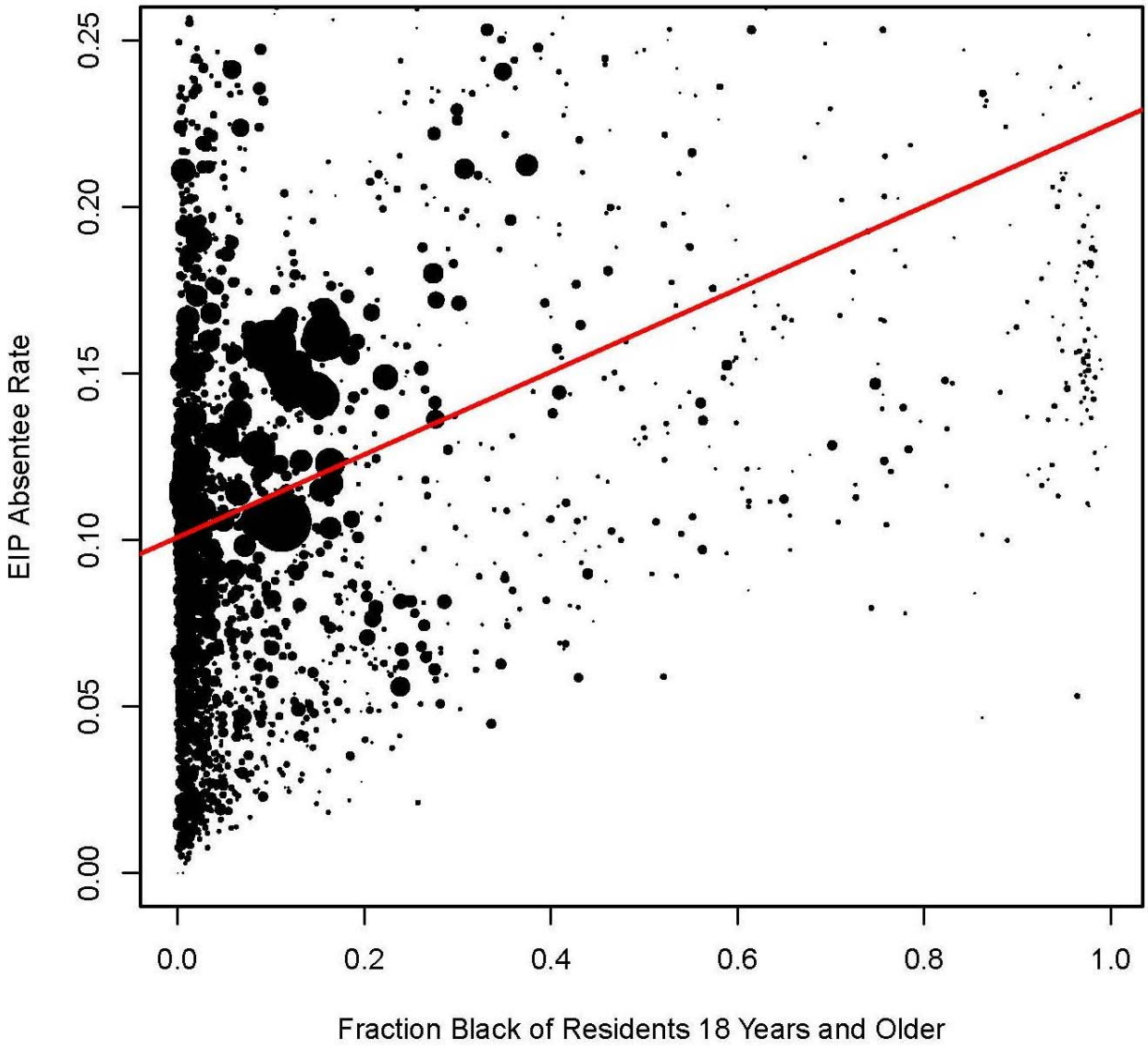
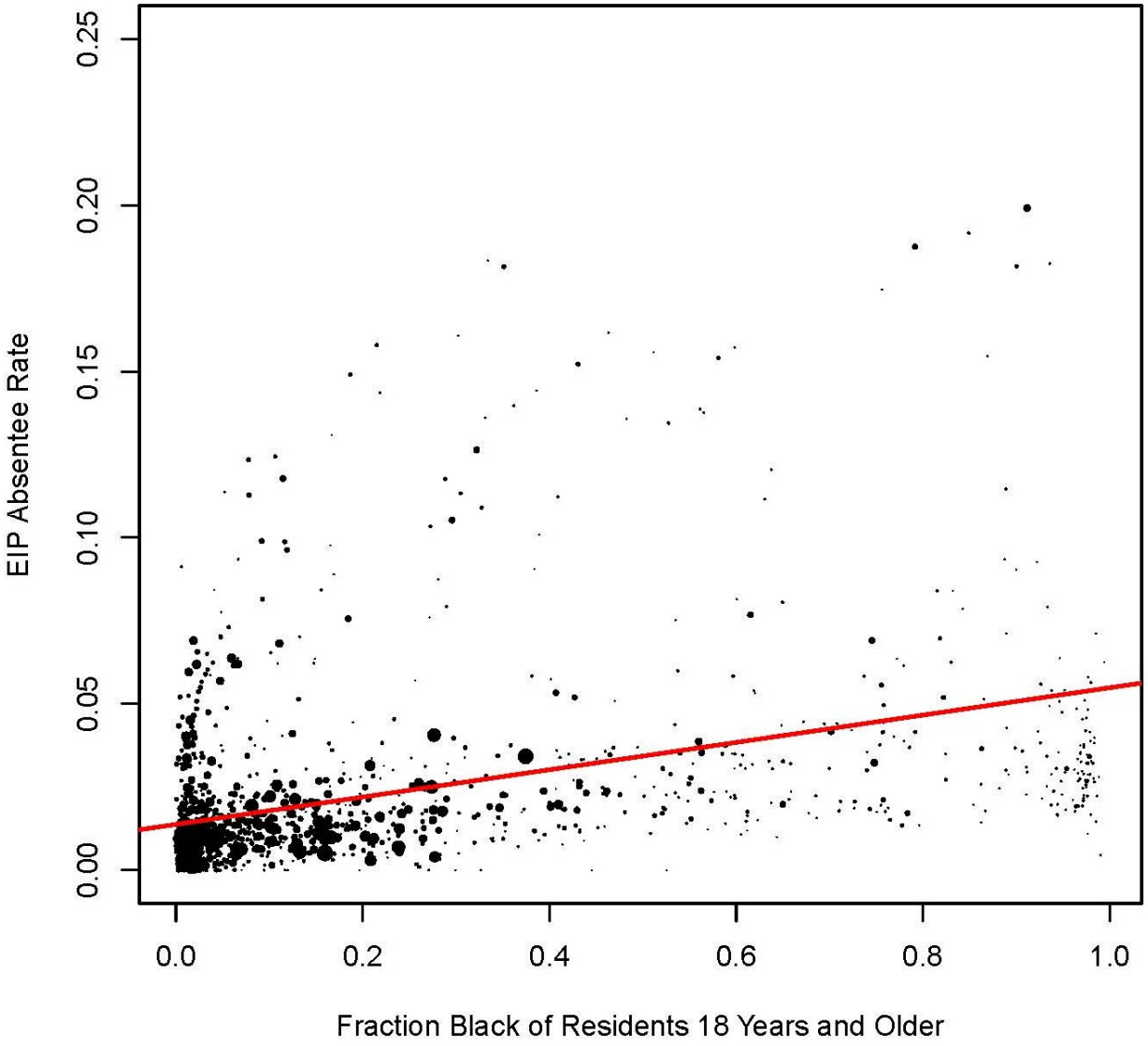


Figure 7T: Black VAP Census Tracts and EIP Absentee Voting Rates in Ohio, 2010 General Election



E. Census Block Regression Findings Hold when Estimating the Relationship between Black VAP and EIP Voting Rates in Ohio in 2010 and 2012 on Days Scheduled for Elimination, but with the Final Sunday and Monday before the Election Restored

In his Response, Dr. Brunell suggests that my Report is limited because my "analysis was done assuming the final Sunday and Monday before the election would not be early voting days" (p. 1). As I acknowledge in my Report, my analysis was conducted prior to the summary

judgment of U.S. District Court Judge Peter Economus on June 11, 2014. In any event, I have replicated the eliminated day plots (Figure 2 and Figure 8) and regressions in my original Report, restoring all EIP votes cast on the final Sunday and final Monday of early voting in both election years. Figure 2b, below, plots black VAP and the EIP absentee voting rate on the days in 2012 that would have been eliminated by the 2014 regulations, but with the final two days of early voting in 2012 restored. Figure 8b, below, plots black VAP and the EIP absentee voting rate on the days in 2010 that would have been eliminated by the 2014 regulations, but with the final two days of early voting in 2010 restored.

Both Figure 2b and Figure 8b reveal that the rate of EIP absentee voting in the 2012 and in 2010 General Elections increases as the percentage of black VAP across census blocks increases on days that would have been eliminated had the 2014 law and directive been in effect, even *after* the restoration of the final two days of early voting, per Judge Economus's June 11, 2014 ruling. The coefficient for black VAP in the census block regression (weighted by turnout) displayed below in Figure 2b is positive and statistically significant (Coefficient fraction black VAP = 0.031; se = 0.000). In Figure 8b, the coefficient for black VAP in the census block regression (weighted by turnout) is also positive and statistically significant (Coefficient fraction black VAP = 0.004; se = 0.000).

Figure 2b: Black VAP Census Blocks and EIP Absentee Votes on Days in 2012 Ohio General Election that would have been Eliminated (Restoring Final Sunday and Monday)

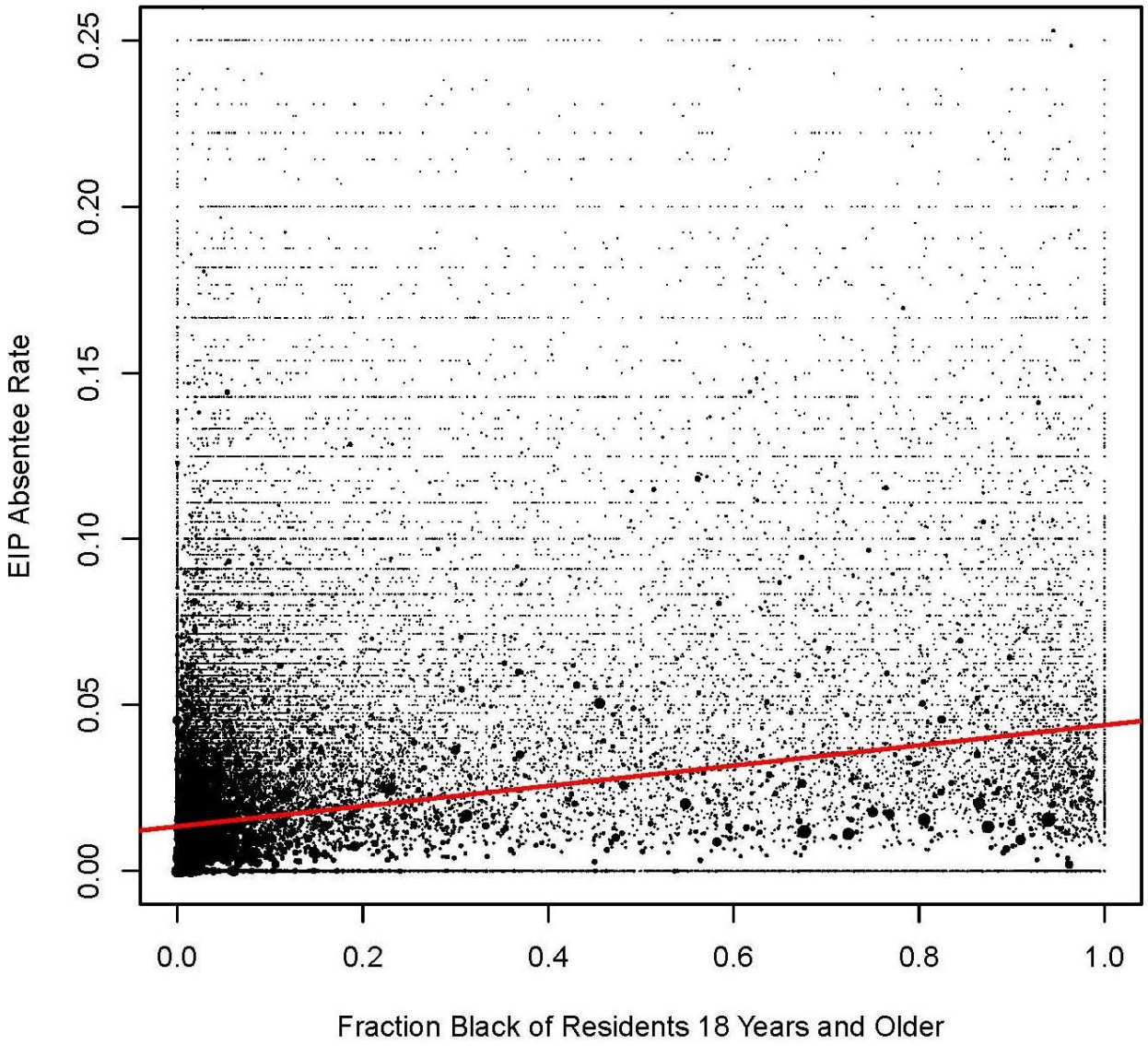
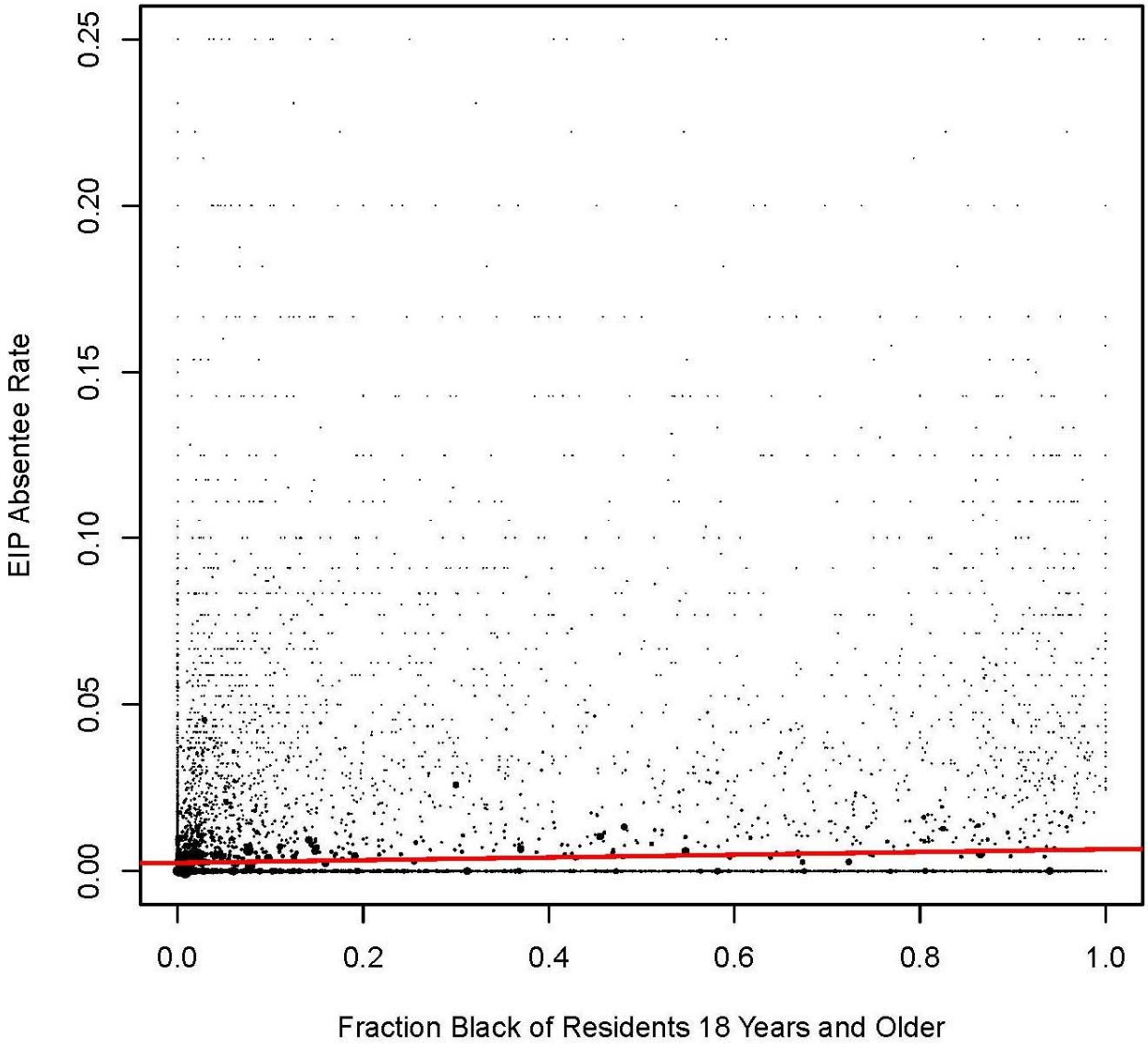


Figure 8b: Black VAP Census Blocks and EIP Absentee Votes on Days in 2010 Ohio General Election that would have been Eliminated (Restoring Final Sunday and Monday)



F. Homogeneous Area Analysis Properly Estimates the Relationship between Black VAP and EIP Voting Rates in Ohio

All ecological inference methods have their limitations, which is why I rely on *multiple* methods of analysis to infer race-based EIP absentee voting behavior in Ohio. For instance, as discussed above, aggregation bias is always a concern in ecological regression analysis, and as a consequence, I offer two other established methods of ecological inference: homogenous areas

and methods of bounds. As I mentioned earlier, scholars often use these methods to corroborate their findings through triangulation. I begin here by rearticulating the findings from my homogeneous area analysis.

Dr. McCarty (p. 7) accepts without criticism the data, methods, analysis, and conclusions from my homogenous block analysis for the 2012 General Election (that is, Figure 3 and Figure 9 in my Report), reiterating my findings that "EIP voting rates are higher in blocks with 100% black VAP than in ones with 0% black VAP" (p. 7). Dr. McCarty aptly summarizes my findings: "This must logically be the case only for those homogeneous blocks" (p. 7). I agree with Dr. McCarty that it would be "inappropriate to extrapolate the findings from homogeneous blocks to conclude that the black EIP voting rate exceeds the white rate statewide" (p. 7), which is why I rely on multiple methods of analysis in my Report.

Nonetheless, the significance of my findings from my homogeneous area analysis—findings accepted by Dr. McCarty—should not be underestimated, as Ohio is a racially polarized state. A majority of census blocks in Ohio with voting age population (VAP) are either 100 percent white or 100 percent black. According to the 2010 U.S. Census, of the more than 240,000 census blocks in Ohio with at least one person of voting age, 55.8 percent have 100 percent white VAP and 1.4 percent have 100 percent black VAP. Thus the significant differential EIP voting rates of blacks and whites obtained from my Report's homogeneous area analysis, which Dr. McCarty reaffirms "must logically be the case" (p. 7), covers a majority of Ohio's census blocks.

For his part, Dr. Brunell acknowledges that "homogeneous precinct analysis is very common in redistricting litigation when the ecological inference question has to do with vote

choice" (pp. 5-6). I agree with this statement. I note as well that the matter of inferring EIP absentee voting rates is parallel to the race-based vote choice problem noted by Dr. Brunell.

G. The Method of Bounds Properly Estimates the Relationship between Black VAP and EIP Voting Rates in Ohio

Although the homogenous area analysis that I conduct in my Report covers a majority of Ohio's census blocks, Dr. McCarty correctly notes that this "does not rule out the possibility that white EIP voting rates may be as high or higher than the black rates in more heterogeneous blocks" (p. 7).[12] Of course, I recognize this in my Report, which again shows why I triangulate my findings based on multiple analyses. To help examine more heterogeneous blocks, I use the method of bounds to examine EIP absentee voting by blacks and whites.

In criticizing my Report, Dr. McCarty notes that an implicit assumption underlying my application of the method of bounds is that turnout in the 2012 General Election in Ohio was taken as equivalent in homogenous and nearly homogenous black and white VAP census blocks. On p. 8 of his response, Dr. McCarty questions this assumption, although he provides no empirical evidence that turnout in the 2012 General Election in Ohio was indeed not essentially equivalent in homogenous and nearly homogenous black and white VAP census blocks.

Nevertheless, I appreciate Dr. McCarty's suggestion that another method of estimating the lower and upper bounds for the EIP absentee voting rates for blacks and whites should

[12] Dr. Brunell appears to be confused by why I triangulate my findings using a variety of ecological inference techniques, writing (on p. 5 of his Response), "there was no indication why he would switch from one standard to another for different tests." In addition, Dr. Brunell mischaracterizes my homogeneous block analysis, incorrectly referring to it as "homogeneous precinct analysis." Dr. Brunell argues that rather than aggregating to the census block, I should aggregate "up to the precinct level" (p. 6). In principle, this might be an option. Unfortunately, this is not a realistic option, as Ohio county Board of Elections often re-draw precinct lines due to population growth/contraction as well as to keep in accordance with state law setting the maximum number active voters in a precinct at 1,400.

account for the fact that race-based turnout rates are not observed.[13] However, rather than replicating my figures with the data that were provided to counsel and generating "corrected" lower and upper bounds of EIP absentee voting rates, in his Appendix (p. 19) Dr. McCarty conjures what he assumes to be "a more realistic value" of black VAP turnout in Ohio (70%) in the 2012 General Election. He then uses this percentage to "derive the proper set of bounds for the application to estimating [sic] the EIP voting rate" (p. 8). On p. 19 of his Appendix, Dr. McCarty applies his speculative 70 percentage black VAP turnout bounds to one black and white VAP homogeneity cutoff point shown in Figure 4 in my Report, specifically the EIP absentee voting rates in census blocks with 90% black VAP and 90% white VAP. Not surprisingly, given his questionable assumption—that black turnout was 70% in all of these census blocks in the 2012 General Election in Ohio—Dr. McCarty finds that "the bounds for the black EIP rate and the bounds for the white rate for the 90% blocks would overlap," and thus, that "one would not be able to say that the black EIP rate exceeds that of whites with certainty" (p. 19).

Rather than arbitrarily setting black VAP turnout at 70% and calculating black and white EIP absentee voting rates for census blocks with at least 90% homogeneity, as Dr. McCarty does in his response, I employ the precise formula that Dr. McCarty suggests as a methodological correction and recalculate all the bounds reported in my Report—not only in Figure 4 (EIP absentee vote rates in the 2012 General Election), but also Figure 5 (EIP absentee vote rates on days that would have been eliminated in the 2012 General Election), taking into account Dr. Brunell's concern about the final Sunday and Monday of voting being restored by Judge Economus.

[13] Without offering any empirical evidence, Dr. McCarty opines that 70% turnout is "a more realistic value of T [turnout]." This was not the case in the 2012 General Election in homogenous and nearly homogeneous black census blocks, as turnout was considerably higher.

It is clear from the recalculated Figure 4a and Figure 5a (shown below) that, following Dr. McCarty's calculations for turnout bounds across homogenous and nearly homogenous black and white census blocks in Ohio in the 2012 General Elections, the new bounds produce nearly identical results to those in my Report. Using Dr. McCarty's suggested corrective to account for the fact that race-based turnout rates are not known (due to the fact that the Ohio Secretary of State does not make available turnout rates by race), Figure 4a shows that EIP absentee voting rates in homogenous and nearly homogenous black VAP census blocks are consistently higher than those in homogenous and nearly homogenous white VAP census blocks for all permitted early voting days in 2012. This conclusion largely holds (96 percent homogeneity and up) when the data are restricted to days eliminated by SB 238 and Directive 2014-06, even after the restoration of the final Sunday and Monday of EIP absentee voting by Judge Economus (Figure 5a).

Figure 4a: EIP Absentee Voting Rates in Census Blocks with 90% to 100% Black VAP and in Census Blocks with 90% to 100% White VAP, 2012 General Election, with Dr. McCarty's Adjustment

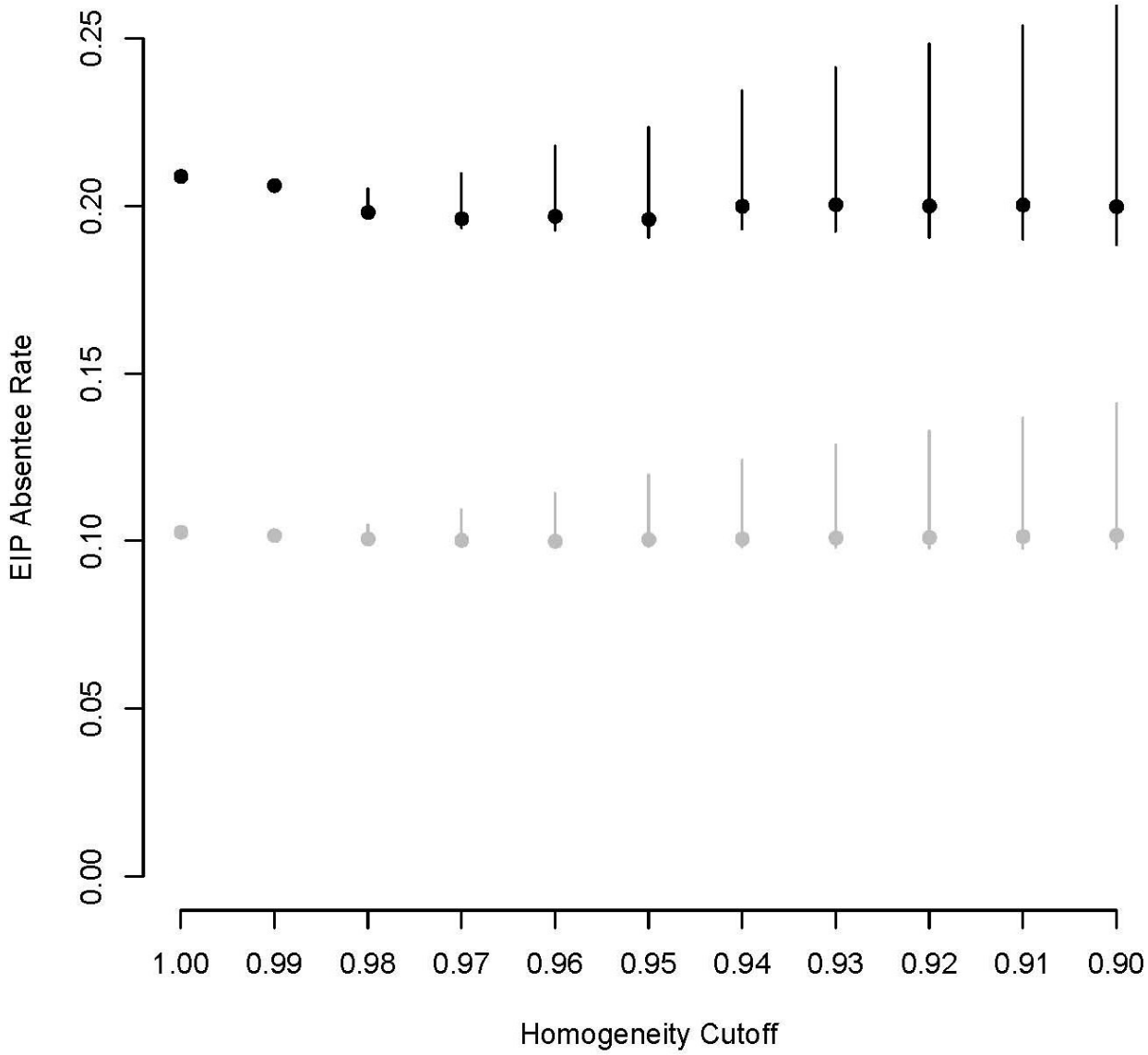
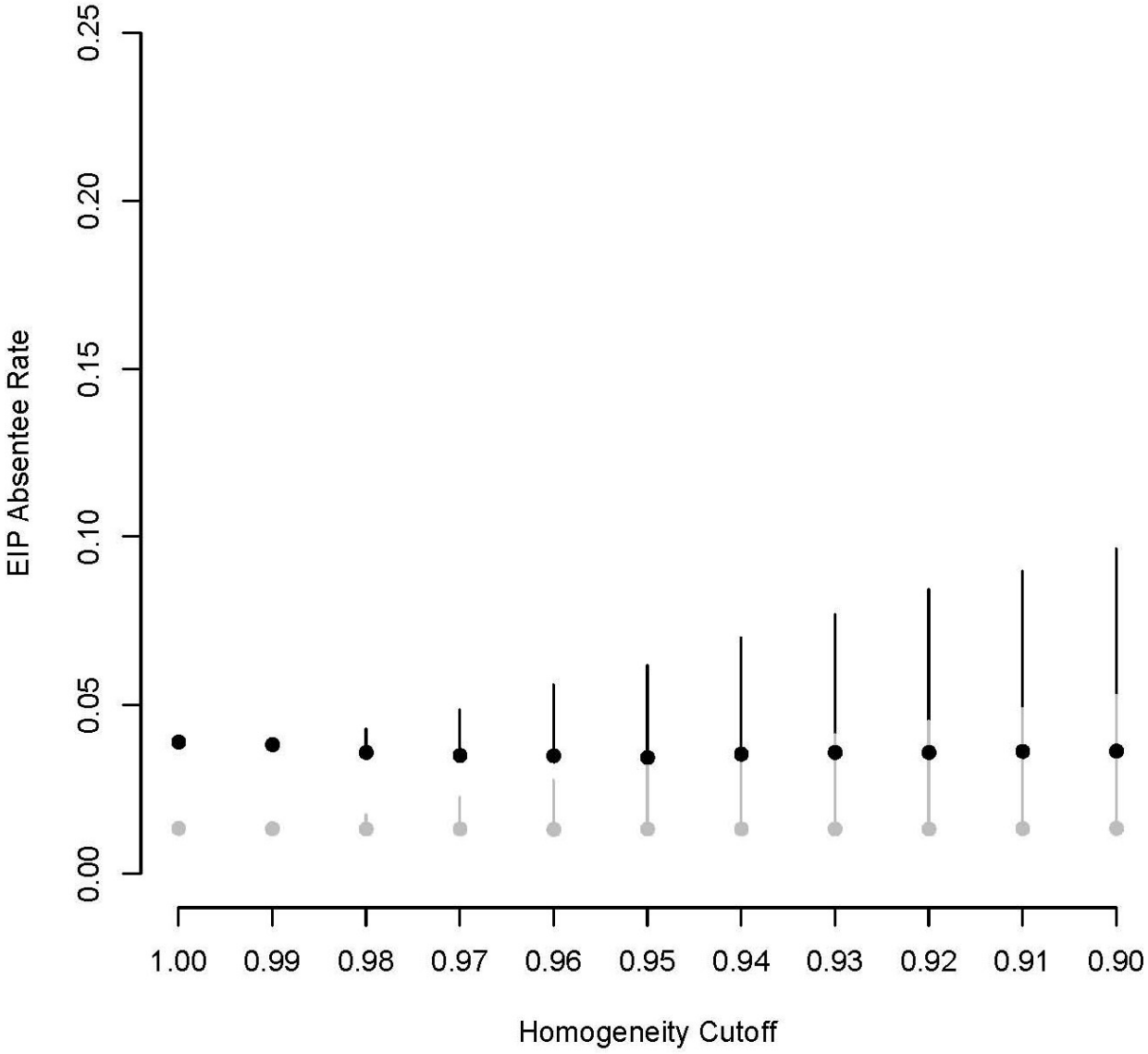


Figure 5a: EIP Absentee Voting Rate in 2012 General Election in Census Blocks with 90% to 100% Black VAP and 90% to 100% White VAP on Days that would have been Eliminated (Restoring the Final Sunday and Monday), with Dr. McCarty's Adjustment



As the above figures reveal, when accounting for the fact that turnout rates of blacks and whites are not known, the recalculated bounds are substantively similar to those in my original Report. As such, one *can* with confidence say that the black EIP voting rate exceeds that of whites in the 2012 General Election.

H. Analyzing Data from Five Counties in Ohio's 2010 General Election

Both Dr. McCarty and Dr. Brunell claim that my analysis showing differential rates of EIP absentee voting rates between blacks and whites in Ohio's five most populated counties in the 2010 General Election is not representative or generalizable to the entire state of Ohio. Neither Dr. McCarty nor Dr. Brunell, however, provides any evidence that an analysis of these five counties is in fact *not* generalizable to the state as a whole. More importantly their criticism in way undermines the probative value of my findings. Nowhere in my Report do I claim that the conclusions I draw from my analysis of EIP absentee voting rates in these five counties in 2010 are "comprehensive," nor do I suggest that they should be used "to make reliable generalizations" for "the entire state of Ohio," as Dr. Brunell claims in his Response (p. 1).[14]

In his discussion of my 2010 findings, Dr. Brunell does not challenge the major conclusions I draw from Figure 9 (p. 25) of my Report. He offers no empirical analysis of his own challenging my 2010 findings that more than 9,600 voters cast ballots during the Golden Week and the final Sunday and Monday of voting in 2010, days that would be eliminated by SB 238 and Directive 2014-06. He does not dispute my finding that in these five Ohio counties in the 2010 General Election: 1) the "homogenous area analysis confirms that blacks residing in 100% black census blocks were more likely than comparable whites to utilize EIP absentee voting"; 2) that "the EIP absentee voting rate in 100% black census blocks was roughly four times the comparable rate in completely homogeneous white census blocks"; and 3) that "Golden Week" absentee voters were disproportionately black.

[14] Dr. McCarty immediately sets aside my empirical analyses of EIP absentee voting in Ohio's 2010 General Election, stating, "Because the five counties used in 2010 are so unrepresentative of the state in terms of several factors such as racial composition, partisanship, urban density, I do not believe that inferences from the 2010 data about the effects of SB 238 and Directive 2014-06 statewide are valid. So I will focus on the results from 2012" (p2, fn 1). Tellingly, neither Dr. Brunell nor Dr. McCarty provides any empirical evidence contradicting any of the findings from my analysis of EIP absentee voting rates in the 2010 General Election.

The value of analyzing EIP absentee voting rates by blacks and whites in these five counties in 2010 remains highly probative. According to the 2010 U.S. Census, over 1 million African-Americans reside in the five counties (Cuyahoga, Franklin, Hamilton, Montgomery, and Summit) included in my 2010 analysis. The five counties account for nearly 73 percent of all blacks living in Ohio.[15] More than 3,600 Ohioans cast EIP absentee ballots during the Golden Week in these five counties alone, a week of voting that would have been eliminated had SB 238 and Directive 2014-06 been in effect, and a week in which the rate of EIP voting in homogenous black census blocks clearly outstripped the rate of EIP voting in homogenous white census blocks (Smith Report, Figure 9, p. 25).

As such, even if my analysis of the 2010 General Election in Ohio is not generalizable to other elections or the entire state, the evidence from just these five large counties is probative. It suggests that if EIP voting days were reduced in Ohio in the 2010 General Election—especially the Golden Week—it would have had disproportionately negative impact on black voters.

I. The Current Population Survey in Ohio (2008 and 2012 General Elections) Confirms the Finding that Blacks Utilize EIP Absentee Voting at Greater Rates than Whites

Neither Dr. McCarty nor Dr. Brunell takes issue with my U.S. Census Current Population Survey analysis of EIP absentee voting rates by blacks and whites in Ohio in the 2008 and 2012 General Elections. In his Response, Dr. McCarty accurately summarizes the findings of my analysis of the 2012 Current Population Survey data. His only criticism is that the survey does not ask which day an early voter cast his or her EIP absentee ballot, suggesting, "it is difficult to infer anything from this information about the impact of the recent legislative and administrative

[15] United States Census Bureau, "American Fact Finder," 2010 Census, available at: http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

changes to early voting in Ohio" (p. 9). I recognize this limitation, but the CPS data still allow me to analyze individual-level EIP absentee voting by blacks in whites in Ohio elections. The CPS data are not a lynchpin of my Report, but rather, they serve to triangulate the conclusions of my Report.

J. The Scholarly Literature on EIP Absentee Voting and Turnout Cited by Defendants' Experts is Largely Inconclusive

With one notable exception,[16] scholarly studies of EIP absentee voting and turnout rates that Dr. Brunell and Dr. McCarty cite are generally based on older data (2008 or earlier), offer findings that are inconclusive, do not isolate EIP absentee voting from other forms of convenience voting, and do not analyze data from states where early voting opportunities have been *eliminated*. Furthermore, with respect to questions of turnout, they do not assess differential EIP absentee voting rates by race.[17] Both Dr. McCarty and Dr. Brunell highlight a recent article on "early voting" and turnout by Barry Burden and his coauthors at the University of Wisconsin-

[16] Michael C. Herron and Daniel A. Smith, "Race, Party, and the Consequences of Restricting Early Voting in Florida in the 2012 General Election," *Political Research Quarterly* 67 (2014) (OnlineFirst) http://prq.sagepub.com/content/early/2014/02/21/1065912914524831. Our study of early in-person voting in Florida focuses on racial patterns of early voting across two General Elections in the state. We find that the black EIP rate dropped more than 4 percentage points from 2008 to 2012, which was more than four times the drop of white EIP rate. Although a substantial of black voters who cast ballots on the first five days of early voting in the 2008 General Election—days that were eliminated in the 2012 General Election—voted again by some method four years later, these figures are *less* than the voting rates of those who had cast early ballots on the first Saturday and Sunday of early voting in 2008, days that were retained. Furthermore, blacks who voted on the final day (a Sunday) of early voting in 2008—a day cut by the legislature in 2011—had a much lower turnout rate (by any method of voting) in 2012. Finally, it is important to note that while Florida cut the number of early voting days from 14 in 2008 to eight in 2012, the state retained the total number of early voting hours over the shortened timeframe that counties were required to offer.

[17] Mary Fitzgerald, "Greater Convenience but not Greater Turnout: The Impact of Alternative Voting Methods on Electoral Participation in the United States," *American Politics Research* (2005): 842-67; Paul Gronke, Eva Galanes-Rosenbaum, and Peter A. Miller, "Early Voting and Turnout," *PS: Political Science* (2007): 639–45; Robert M. Stein, "Early voting," *Public Opinion Quarterly* (1998): 57–69; Jeffrey A. Karp and Susan A. Banducci, "Absentee Voting, Mobilization, and Participation," *American Politics Research* (2001): 183-95; Joseph Giammo and Brian J. Brox, "Reducing the Costs of Participation. Are States Getting a Return on Early Voting?" *Political Research Quarterly* (2010): 295-303; Thad Kousser and Megan Mullin, "Does Voting by Mail Increase Participation? Using Matching to Analyze a Natural Experiment," *Political Analysis* (2007): 428-45.

Madison.[18] Burden, et al. (2014: p. 96) define early voting broadly as **"**practices that permit voters to cast ballots without excuse prior to Election Day," which by construction combines both no-excuse absentee (mail) voting and early in-person (EIP) voting. Notably, the Burden et al. study does not address the question of whether blacks and whites utilize EIP absentee voting at different rates, nor does it address the question of how turnout among blacks and whites might be affected if early voting opportunities are eliminated.

Dr. Brunell asserts that had the reduction in EIP absentee voting days been in effect in 2010 in Ohio, "in all likelihood nearly all of these people would still cast a ballot" (p. 5). This is an unsubstantiated claim. Dr. Brunell provides no empirical evidence from states where early voting opportunities have been eliminated to support his assertion that these "voters will adapt and show up on another early voting day" (p. 2), nor does he cite any scholarly literature suggesting that we should expect this to be the case in Ohio.[19] Furthermore, Dr. Brunell does not consider the possible disparate racial effects if EIP absentee days are eliminated, especially as I show in Figure 9 of my Report, considering that blacks in the five Ohio counties in the 2010 Election voted at a higher rate than whites on the early voting days eliminated by the 2014 legislation and administrative directive.

[18] Barry C. Burden, David T. Canon, Kenneth R. Mayer, and Donald P. Moynihan, "Election Law, Mobilization, and Turnout," The Unanticipated Consequences of Election Reform," *American Journal of Political Science* (2014): 95-109.

[19] In my article with Dr. Herron, we address this question using individual-level data using the Florida voter file. We find that the use of EIP voting in Florida is *not* spread evenly among racial and ethnic groups in Florida, and that when early voting was cut from two weeks in the 2008 General Election to eight days in the 2012 General Election, Hispanics who voted early in 2008 on days that were eliminated were especially less likely than whites to cast a valid ballot of *any* type in the 2012 election. See Herron and Smith, "Race, Party, and the Consequences of Restricting Early Voting in Florida in the 2012 General Election."

Conclusion

Data limitations make the task of ascertaining rates of EIP absentee voting by blacks and whites in Ohio difficult. When working in this area, scholars inevitably face the reality of ecological inference. To deal with this issue, I draw on multiple data sources and methods of analysis to estimate rates of EIP absentee voting by blacks and whites in Ohio in the 2010 and 2012 General Elections. I supplement my findings with survey data from 2012 and 2008. The results the three ecological inference methods I employ, bolstered by results from survey data, show that black voters use EIP absentee voting at higher rates than white voters in Ohio. It follows, then, that blacks will be disproportionately affected in future Ohio elections if the 2014 early voting reductions are not fully restored.

I declare under penalty of perjury under the laws of the United States that the forgoing is true and correct to the best of my knowledge.

Dated: 30 July 2014

Daniel A. Smith, Ph.D.