

APPENDIX B – DISPARATE IMPACT ANALYSIS

Viewing the undisputed facts in the light most favorable to Plaintiffs, it is clear that the challenged provisions have no racially discriminatory impact. Defendants expert Michael E. Bell, Ph.D., performed a thorough analysis of data from the Alabama Department of Education (“DOE”), the Alabama Department of Revenue (“DOR”), and the U.S. Census Bureau using several generally accepted econometric methods including symmetric comparisons of the “tails” of the distribution, correlation coefficients, and weighted averages, to test whether there is any basis to conclude that African-Americans in Alabama are discriminatorily impacted by the challenged tax provisions. The results of Dr. Bell’s calculations have not been contested by Plaintiffs, and the calculations demonstrate clearly that there is no such racially disparate impact..

(a) *County-level analysis of tax capacity*

Bell’s report is divided into several sections. *See* Bell Rpt., Doc. 125-1. First, because plaintiffs’ alleged injury is a restricted ability to raise revenues for all public services provided by county government, including education,¹ Dr. Bell analyzed the per capita property tax capacity at the county level for white

¹ *See* Comp. at ¶¶ 7-9 and Doc. 68, Int. 41(iii) (Q: “With respect to [the allegations in ¶¶7-9 of the Complaint], please identify and explain .. [e]ach and every public service that Plaintiffs ‘need’ that is not being adequately funded.” A: “Public school educational resources of every kind and all other services and facilities provided by county government”).

Alabamians and black Alabamians. This measure reflects the ability of counties to raise property tax revenues to meet the public service needs of their populations.

As an initial cut at the data, Bell analyzed symmetrical ends of the distribution based on racial composition by county. For the 11 counties with the highest percentage of African-American residents (all 11 are majority-black), the average county property tax base per capita is \$8,949, or 92.6% of the statewide average; for the 11 counties with the smallest share of African-Americans, the average county property tax base per capita is \$8,493, or 87.9% of the statewide average. In other words, contrary to the plaintiffs' hypothesis, the most heavily white counties actually have lower average property tax bases per capita than the predominantly black counties.

An alternative approach to exploring this issue is to sort the counties by per capita tax base from low to high values and look at the characteristics of the low- and high-wealth counties. For the 20 percent of counties that have the lowest per capita property tax base for county government services², African-Americans accounted for an average of 30.6% of the population; for the 20 percent of counties

² This group includes thirteen counties, including two of the counties with the most black residents (Jefferson, Montgomery) and two of the counties with the most white residents (Shelby, Baldwin).

with the highest per capita county property tax bases,³ African-Americans account for an average of 29.8% of the population. In other words, the wealthiest and poorest counties have roughly equivalent racial compositions.

Bell also analyzed the strength of the relationship between the per capita property tax base at the county level and the percentage of the county's population that is black. Because a correlation coefficient is based on *every* observation (in this case, every county), not merely the points at the extremes of the continuum, this analysis offers a clearer view of understanding the entire set of data than does a limited comparison of unrepresentative samples, which may well ignore important behavior in the far greater number of observations between the two extremes. See *Rodriguez* at <CITE>. The results yielded a correlation coefficient⁴ of -0.07, indicating no systematic relationship between race and tax capacity at the county level.

³ This group includes thirteen counties, including three of the counties with the least black residents (Jackson, Dekalb, Blount) and three of the counties with the least white residents (Macon, Bullock, Dallas).

⁴ A correlation coefficient is the standard unit of measurement for describing the relationship between two sets of numbers. It can be calculated by using a Microsoft Excel function. A correlation coefficient of 1.0 means that two sets of numbers are perfectly correlated – a high number in one column is associated with a high number in the other column and the exact ranking is the same in both columns (i.e. the highest in one column is the highest in the other column, etc). If the rankings are altered a bit, the correlation coefficient becomes less than one. The closer the correlation coefficient is to 1.0 the stronger the correlation between two sets of numbers. A zero correlation coefficient means that there is no relationship between the two sets of numbers; they are essentially random sets of numbers. Economists and statisticians generally consider a correlation coefficient greater than 0.5 to indicate a significant relationship between two sets of numbers; the closer the correlation coefficient is to 1.0, the stronger the relationship. Bell Rpt. at n15.

Bell then measured tax capacity on an individual weighted average basis and found white and black property tax capacity to be virtually identical (\$12,154 v. \$12,098; *see* Bell Rpt. at 7). In other words, the county property tax base for the average white resident of Alabama is less than 0.5% different than the county property tax base for the average black resident of Alabama.

(b) School system level analysis of tax capacity

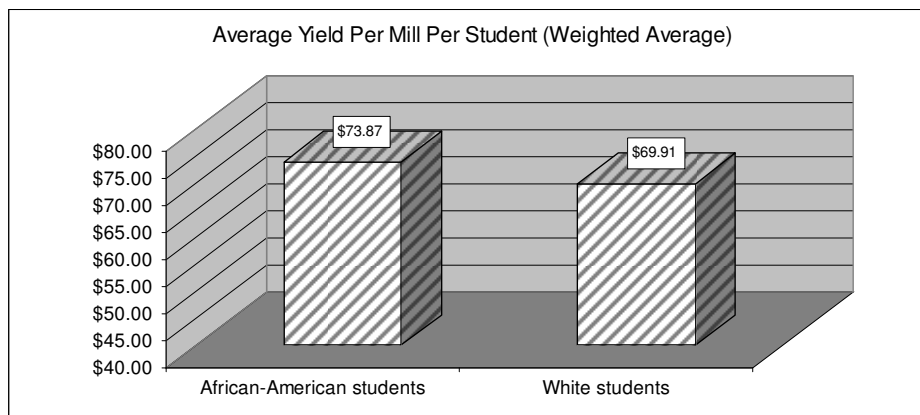
Because the analysis in the previous section is limited to data aggregated at the county level such that all taxable property was included in a county's tax base, regardless of whether it lies in a particular school system or a particular city, Bell also performed the same analyses using school system-level data. This analysis separates the property tax base into 131 school systems to account for the possibility that while a county-level analysis might show no racially disparate impact, the racial composition of individual school systems might vary widely enough in a systematic way to indicate the existence of a disparate impact at the school system level.

Comparing school system-level data based on the racial compositions of the systems, the average property tax base per student, as measured by the yield per mill per pupil, for the 25 percent of the districts with the greatest share of African-American students is \$58.93; the comparable number for the 25 percent of school districts with the lowest share of African-American students is \$55.47. In other

words, contrary to the plaintiffs' hypothesis, the most heavily white school systems actually have lower average property tax bases per student than the predominantly black school systems.

The correlation coefficient between race and tax capacity per student, based on DOR estimates, is 0.012, indicating the lack of any systematic relationship.⁵

Measuring tax capacity on a per student weighted average basis⁶ demonstrates that African-Americans actually have a higher property tax capacity than whites. Bell Rpt. at 9.



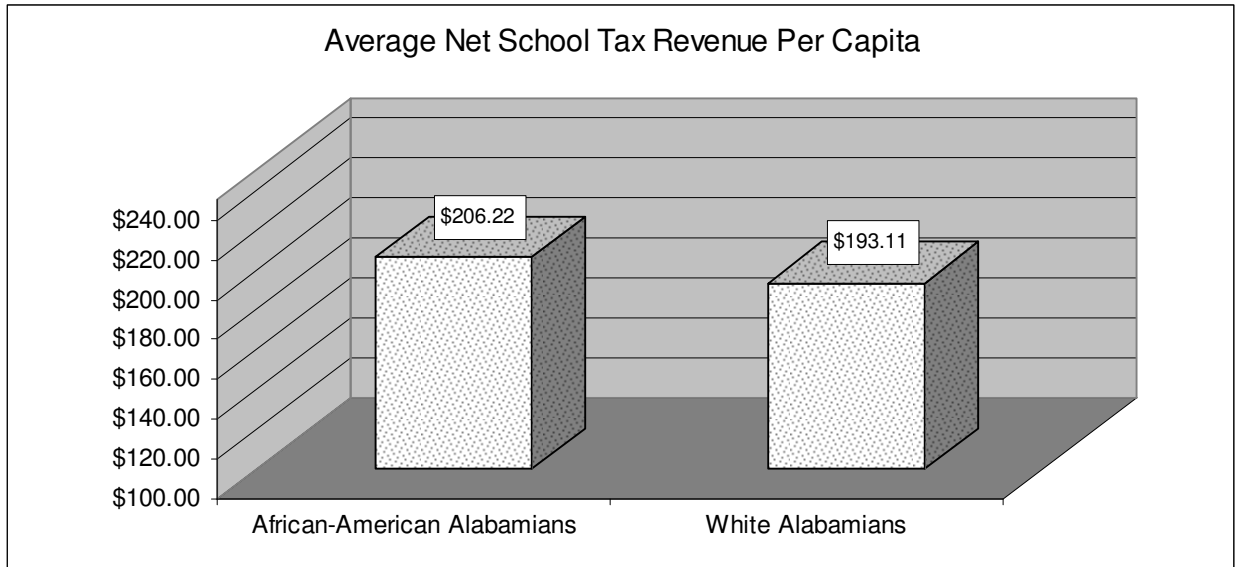
(c) *Tax Revenue Analysis*

⁵ Plaintiffs' expert Dan Sullivan relied on yield per mill per pupil data supplied by Dr. Ira Harvey. The State Department of Education also maintains estimates of the yield per pupil per mill by school district. Calculating the correlation between the percent of African-Americans in the student population and the yield per mill per pupil values in Dr. Harvey's data and in the State Department of Education's data resulted in correlation coefficients of 0.022 and 0.024, respectively. Thus, regardless of which estimates of the yield per mill per pupil are used, the result is the same – there is no systematic relationship between the percent of students that are African-American and the yield per mill per student.

⁶ As measured by the amount of money per K-12 public school student that one mill of property tax raises.

Regardless of whether county-level data or school district-level data are used, it is clear that Alabama's property tax limitations do not have a racially discriminatory effect on blacks from a tax capacity perspective. Still, the Plaintiffs argued in their Complaint and in their expert reports that certain procedural hurdles in the Alabama constitution have a racially disproportionate impact on black citizens' ability to raise tax rates sufficient to generate revenues potentially available from their property tax base. This argument is not supported by the undisputed facts.

Statewide, African-American citizens of Alabama have an average county school tax revenue of \$206.22 per capita, while white citizens in Alabama have an average county school tax revenue of \$193.11 per capita. Once again, there is no indication that African Americans are being disproportionately impacted by the current system. In fact, in terms of county school tax revenues per capita, African Americans in Alabama have a 6.8% advantage over whites.



(d) School Spending Analysis

Because Plaintiffs are all K-12 public school students in Alabama and many allegations in the Complaint relate to school funding, Dr. Bell performed the same analysis for state and local K-12 public school expenditures as he did for tax capacity in Section (b) above.

Comparing school system-level data based on level of spending, for the 33 (representing 25% of the systems) lowest-spending school systems, African-American students represent, on average, 30.7 percent of the students in those districts; for the 33 highest-spending school systems, African-American students represent, on average, 35.8 percent of the students. In other words, contrary to the Plaintiffs' hypothesis, the ratio of black students to white students is higher in the highest-spending school systems than in the lowest-spending school systems.

Measuring school spending on a per student weighted average basis demonstrates that black students and white students have virtually identical levels of state and local K-12 per pupil spending. *Id.* at 14.

