

James P. Scanlan

[This letter, which was originally mailed to the Court on February 14, 2017, is submitted as an attachment to the Comments of James P. Scanlan Regarding Proposed Consent Decree in United States v. Police Department of Baltimore City and Mayor and City Council of Baltimore, No. 17-cv-00099 (March 7, 2017). Pursuant to the Court's Order of February 15, 2017, identifying information beyond name has been redacted.]

February 14, 2017

The Honorable James K. Bredar
United States District Judge
United States District Court
for the District of Maryland
101 West Lombard Street
Baltimore, MD 21201

Re: *United States v. Police Department of Baltimore City and Mayor and City Council of Baltimore*, No. 17-cv-00099

Dear Judge Bredar:

At some point the Court will establish procedures for public comment on the proposed consent decree in the referenced case. Presumably, those procedures will allow me to bring to the Court's attention the issues addressed here, assuming the parties believe those issues are appropriate for the Court's consideration,¹ and I may later submit a written statement in accordance with those procedures.

I am sending this letter, however, because the nature of the issues it addresses is such that I believe it imperative that the Court be made aware of the issues at the earliest possible time. One issue involves the fact that, like numerous actions of the Department of Justice (DOJ) in other cases and the report underlying the agency's actions in this case, the proposed consent decree is premised on the belief that generally reducing adverse criminal justice outcomes will tend to reduce (a) relative racial and other demographic differences in rates of experiencing those outcomes and (b) the proportion groups most susceptible to the outcomes make up of persons experiencing them. Exactly the opposite is the case. Generally reducing any outcome will tend to increase both (a) and (b) as to the outcome.

A second issue involves the fact that, while at this time the DOJ is presumably unaware that reducing the frequency of adverse criminal justice outcomes tends to increase (a) and (b), there is a good chance that the agency will come to recognize such fact in coming months.

¹ The parties' filing of February 10, 2017, contemplates that the public may submit written comments to the parties, who then will forward to the Court those comments not deemed "irrelevant, threatening, or inflammatory, or [revealing] confidential information." I do not know whether that approach had been suggested or directed by the Court.

The key statistical issue is explained fairly succinctly in my “[The Paradox of Lowering Standards](#),”² *Baltimore Sun* (Aug. 5, 2013), which addresses the Maryland Board of Education’s mistaken belief that relaxing public school discipline standards would tend to reduce relative racial differences in suspensions and expulsions, and my “[Things DoJ doesn’t know about racial disparities in Ferguson](#),” *The Hill* (Feb. 22, 2016), which addresses the DOJ’s mistaken belief that reducing adverse interactions between the residents of Ferguson, Missouri and the city’s police and courts would tend to reduce the proportion African Americans make up of persons experiencing those interactions. The latter item also addresses the longstanding anomaly where, as a result of the government’s failure to understand certain fundamental statistical concepts, the government has encouraged entities covered by federal civil rights laws to engage in conduct that increases the chance that the government will sue them for discrimination.

The issue is explained somewhat more elaborately, and with attention to terms of the proposed decree in this case, in my “[Compliance Nightmare Looms for Baltimore Police Department](#),” *Federalist Society Blog* (Feb. 8, 2017). The item explains, for example, that the more the Baltimore Police Department complies with the decree’s requirement that the Department reduce certain adverse interactions between the police and the public, the greater will tend to be the perceived racial impact of its policies. Also, the more individual officers endeavor to reduce the use of force, the greater will tend to be the likelihood that officer decisions to use force will be deemed to reflect racial bias.

Much more extensive explanations of this and related issues may be found, among many other places, in my [comments](#) for the Commission on Evidence-Based Policymaking (CEBP) (Nov. 14, 2016); [letter](#) to American Statistical Association (Oct. 8, 2015)³; *amicus curiae* [brief](#) in *Texas Department of Housing and Community Affairs et al. v. The Inclusive Communities Project, Inc.*, Sup. Ct. No. 13-1371 (Nov. 2014) (TDHCA brief); “[Race and Mortality Revisited](#),” *Society* (July/Aug. 2014); “[The Perverse Enforcement of Fair Lending Laws](#),” *Mortgage Banking* (May 2014); and “[The Mismeasure of Discrimination](#),” Faculty Workshop, University of Kansas School of Law (Sept. 20, 2013) (Kansas Law paper).

Many graphical and tabular illustrations of the pertinent statistical patterns may be found in methods workshops I have given on the subject at American universities in recent years, including an October 2014 workshop at the Maryland Population Research Center of the

² To facilitate consideration of issues addressed in documents such as this I include links to referenced materials in electronic copies of the documents. Electronic copies are available by means of the [Measurement Letters](#) page of [jpscanlan.com](#). Published items can also be secured by online searches for the titles.

³ A July 25, 2016 follow-up [letter](#) to the American Statistical Association (in Section B, at 7-11) gives particular attention to misunderstandings regarding effects of reducing adverse criminal justice outcomes on measures of racial/ethnic differences in experiencing those outcomes. See also the December 14, 2015 memorandum to the Duke University Professor Jerome P. Reiter, Chair of the American Statistical Association’s Scientific and Public Affairs Advisory Committee, discussed *infra*.

University of Maryland titled “[Rethinking the Measurement of Demographic Differences in Outcome Rates](#).”⁴

Table 1 below, which may also be found in the recent item on the Federalist Society Blog, and which reflects the same hypothetical employed in the *Baltimore Sun* commentary, illustrates the pertinent statistical patterns. The table shows (in numbered columns 1 through 4) the pass and fail rates of an advantaged group (AG) and a disadvantaged group (DG) at two cutoff points in a situation where the groups have normally distributed test scores with means that differ by half a standard deviation (a situation where approximately 31 percent of DG’s scores are above the AG mean). It also shows (in columns 5 through 8) measures that might be used to appraise differences in test outcomes of AG and DG.

Column 5 shows that at the higher cutoff, where pass rates are 80 percent for AG and 63 percent for DG, AG’s pass rate is 1.27 times (27 percent greater than) DG’s pass rate. If the cutoff is lowered to the point where AG’s pass rate is 95 percent, DG’s pass rate would be about 87 percent. At the lower cutoff, AG’s pass rate is only 1.09 times (9 percent greater than) DG’s pass rate.

Table 1. Illustration of effects of lowering a test cutoff on measures of differences in test outcomes

Row	(1) AG Pass Rate	(2) DG Pass Rate	(3) AG Fail Rate	(4) DG Fail Rate	(5) AG/DG Pass Ratio	(6) (a) DG/AG Fail Ratio	(7) DG Prop of Pass	(8) (b) DG Prop of Fail
1	80%	63%	20%	37%	1.27	1.85	44%	65%
2	95%	87%	5%	13%	1.09	2.60	48%	72%

That lowering a cutoff tends to reduce relative differences in pass rates is well understood in civil rights circles and underlies the widespread view that lowering a cutoff tends to reduce the disparate impact of tests where some groups outperform others.

⁴ Other workshops addressing this subject include “[The Mismeasure of Health Disparities in Massachusetts and Less Affluent Places](#),” Methods Seminar, Department of Quantitative Health Sciences, University of Massachusetts Medical School (Nov. 2015); “[The Mismeasure of Discrimination](#),” Center for Demographic and Social Analysis, University of California, Irvine (Jan. 2015); “[The Mismeasure of Demographic Differences in Outcome Rates](#),” Public Sociology Association of George Mason University (Oct. 2014); “[The Mismeasure of Association: The Unsoundness of the Rate Ratio and Other Measures That Are Affected by the Prevalence of an Outcome](#),” Minnesota Population Center and Division of Epidemiology and Community Health of the School of Public Health of the University of Minnesota (Sept. 2014); “[The Mismeasure of Group Differences in the Law and the Social and Medical Sciences](#),” Institute for Quantitative Social Science at Harvard University (Oct. 2012); “[The Mismeasure of Group Differences in the Law and the Social and Medical Sciences](#),” Department of Mathematics and Statistics of American University (Sept. 2012).

But, whereas lowering a cutoff tends to reduce relative differences in pass rates, it tends to increase relative differences in failure rates. As shown in column 6 (which is also designated (a) to correspond with the usage in the second paragraph of this letter), initially DG's failure rate was 1.85 times (85 percent greater than) AG's failure rate. With the lower cutoff, DG's failure rate is 2.6 times (160 percent greater than) AG's failure rate.

Columns 7 and 8 show the proportions DG makes up of persons who pass and fail the test at each cutoff in a situation where DG makes up 50 percent of persons taking the test. Column 7 shows that lowering the cutoff increases the proportion DG makes up of persons who pass from 44 percent to 48 percent (hence, *reducing* all measures of difference between the proportions DG makes up of persons who took the test and persons who passed the test). And Column 8 (also designated (b) to correspond with usage in the second paragraph) shows that lowering the cutoff increases the proportion DG makes up persons who fail the test from 65 percent to 72 percent (hence, *increasing* all measures of difference between the proportions DG makes up of persons who took the test and persons who failed the test).

These patterns are not peculiar to test score data or the numbers I used to illustrate them. Rather, as discussed and illustrated in the materials cited above, the patterns exists to a degree in essentially all circumstances where groups differ in their susceptibility to some outcome (and its opposite). Further, actions of the DOJ regarding this and other matters that are based on the belief that reducing the frequency of an outcome tends to reduce relative differences in rates of experiencing the outcome do not involve a situation where the DOJ is aware that lowering a test cutoff tends to increase relative differences in failure rates, but believes that for some reason the same pattern would not be observed with regard to things like borrower, school discipline, or criminal justice outcomes.⁵ Rather, the DOJ has yet to show an understanding even that lowering a test cutoff tends to increase relative differences in failure rates (though presumably some persons in the agency are aware of such pattern).

In any case, while few people understand that generally reducing an outcome tends to increase, not reduce, relative differences in rates of experiencing it, the point is hardly debatable.⁶ And I note that the National Center for Health Statistics recognized more than a

⁵ Inasmuch as a pattern of increases in the proportions more susceptible groups make up of persons experiencing an outcome is a corollary to the pattern of increases in relative differences in rates of experiencing the outcome, for simplicity, I refer only to relative differences in the remainder of this letter. I note, however, that there are reasons beyond the fact that the proportion a group makes up of persons experiencing an outcome is affected by the frequency of an outcome that militate against ever appraising a demographic disparity on the basis of the difference between the proportion a group makes up of persons potentially experiencing an outcome and the proportion it makes up of persons actually experiencing the outcome. See CEBP comments (Section I.C, at 39-4), TDHCA brief (Section I.B., at 23-27), Kansas Law paper (Section C, at 23-36), and the University of Maryland workshop (slides 96-108).

⁶ Demonstrations of the pertinent patterns by methods other than those I commonly employ may be found in Lambert PJ, Subramanian S (Disparities in Socio-Economic outcomes: Some positive propositions and their normative implications. Soc Choice Welf 2014;43:565-576), and Lambert PJ, Subramanian S ([Group inequalities and "Scanlan's Rule": Two apparent conundrums and how we might address them](#). Working Paper 84/2014, Madras School of Economics (2014)).

decade ago that as healthcare generally improves – with increasing rates of receipt of appropriate care and decreasing rates of non-receipt of appropriate care – relative differences in receipt of appropriate care tend to decrease and relative differences in non-receipt of appropriate care tend to increase. See my “[The Mismeasure of Health Disparities](#),” *Journal of Public Health Management and Practice* (July/Aug. 2016).

Many scholars in Baltimore or Maryland should be able to provide expert advice on this matter, if the Court desires it. Professor Amy Ong Sui of the Bloomberg School of Public Health of Johns Hopkins University is also President of the Population Association of America. As a result of her role as President-Elect last year, Professor Ong should be familiar with my March 29, 2016 [letter](#) to the organization requesting that it explain to the government that generally reducing an outcome tends to increase, not decrease, relative differences in rates of experiencing the outcome. Though in April 2016 the Population Association of America Board declined to explain the issue to the government, Professor Ong ought to be able to give an informed opinion on the matter.

Professor Sangeetha Madhavan, Associate Director of the University of Maryland’s Maryland Population Research Center, who organized and attended the above-mentioned methods workshop at the University, should be very able to provide an informed view on the matter. Professor Katherine Abraham, who is affiliated with the same Center and is Director of the University of Maryland’s Center for Economics and Policy, is also the Chair of the CEBP to which the above-mentioned November 2016 comments were directed. At the time of submitting the comments, I brought them directly to the attention of Professor Abraham, while advising that the comments involved the fact that many government civil rights law enforcement policies are based on the mistaken belief that generally reducing adverse outcomes will tend to decrease relative differences in rates of experiencing the outcome.⁷ Whether or not Professor Abraham

⁷ The final paragraphs of the comments (at 46) are comprised of the following recommendations:

Fifth, the Commission should recommend that Congress take all steps necessary to ensure that no federal law enforcement actions are based the belief that reducing the frequency of an adverse outcome tends to increase relative demographic differences in rates of experiencing the outcome or the proportion disadvantaged groups make up of persons experiencing those outcomes.

Sixth, the Commission should recommend that Congress identify all existing legislation (a) that reflects the belief that reducing the frequency of an adverse outcome will tend to reduce relative demographic differences in rates of experiencing the outcome or the proportion disadvantaged groups make up of persons experiencing the outcome; (b) that require the monitoring of demographic differences with regard to some outcome; (c) that impose liability for a practice that has a disparate impact; (d) that require implementation of a less discriminatory alternative to practices having a disparate impact. Congress should then consider options for eliminating any false beliefs reflected in such legislation and for either clarifying how differences and disparate impacts are to be measured or eliminating the requirements.

Seventh, the Commission should recommend that Congress require that federal agencies take the same actions regarding regulations that the prior paragraph suggests Congress take regarding legislation.

already understands the issue, after giving the matter minimal thought, she should be able to provide the Court a sound opinion on the matter.

Outside of Maryland, Duke University Professor of Statistical Science Jerome P. Reiter, is especially well-positioned to provide an informed opinion on the matter. Professor Reiter is Chair of the American Statistical Association's Scientific and Public Affairs Advisory Committee, to which my October 2015 letter to the American Statistical Association was referred. See my December 14, 2015 [memorandum](#) (especially Section C, at 10-11) responding to Professor Reiter's query regarding situations where the government recommended lowering standards or taking other actions aimed at reducing demographic differences. Professor Reiter also received my July 25, 2016 letter to the American Statistical Association mentioned in note 3 that was substantially devoted to discussion of the misunderstandings of the effects of reducing adverse criminal justice outcomes on measures of demographic differences regarding those outcomes.

Professor Reiter's Committee advised against the American Statistical Association's taking actions of the type I suggested (which included advising the government of its mistaken beliefs regarding the effect of reducing outcomes on demographic differences regarding the outcomes) on the basis that the Committee believed that I was effectively highlighting the issue and that it did not see an additional role for the American Statistical Association to play. But the American Statistical Association gave no indication of any questioning of the essential validity of my views regarding the effects of reducing an outcome on measures of differences in rates of experiencing it, which views it has several times presented in its publications.⁸

In any event, Professor Reiter can certainly provide an informed opinion as to whether there is any basis for disagreement with my assessment of the DOJ's mistaken belief as to the consequences of generally reducing adverse criminal justice outcomes on the measures of racial and other demographic differences that the agency commonly employs.

Turning to the second issue mentioned at the outset, the concluding paragraphs of "Race and Mortality Revisited" discuss the prospects, as of the middle of 2014, for the government to eventually recognize that its understanding of the effects of reducing adverse outcomes on measures of difference in experiencing the outcomes is incorrect. My recent "[Will Trump Have the First Numerate Administration?](#)" Federalist Society Blog (Jan. 4, 2017), discusses reasons to believe that a new administration will more readily understand this and related issues than prior administrations have been.

Those reasons exist whether or not the CEBP addresses the subject in its report to Congress and the President that is due later this year. But it is difficult to conceive of a report that minimally satisfies the CEBP's statutory mandate while failing to address the fact that many

⁸ See "[Misunderstanding of Statistics Leads to Misguided Law Enforcement Policies](#)," *Amstat News* (Dec. 2012); "[Can We Actually Measure Health Disparities?](#)," *Chance* (Spring 2006); "[Divining Difference](#)," *Chance* (Fall 1994). I have also addressed the subject at seven American Statistical Association conferences.

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law enforcement policies are based on an understanding of statistics that is the opposite of reality.

Further, emails I have sent to counsel of both sides put DOJ counsel under an obligation to bring the issues I raise to the attention of new leadership at the agency whether or not counsel themselves yet understand the matter or agree with my views. This letter creates a like obligation. Thus, regardless of any actions I might take to cause the DOJ to understand these issues,⁹ there is a good chance that at some point during ensuing months the DOJ will recognize that certain statistical understandings underlying its actions in this case and many other matters in recent decades are mistaken.

Regardless of when that recognition occurs, it will be a positive development. But the sooner it occurs in this case, the fewer will be the misguided actions taken in the case pursuant to existing misunderstandings and the fewer will be the resources required to correct such actions. And, assuming the decree goes forward, the sooner will the decree be able to accomplish its legitimate goals.

Thus, I suggest that before proceeding further with the case the Court ensure that the parties fully understand the extent to which any aspect of the decree, or the DOJ's reasons for seeking a decree and the City's reasons for agreeing to it, are based on the statistical misunderstandings described above.

Respectfully submitted,

/s/ James P. Scanlan

James P. Scanlan

cc: Counsel of record (by email)

⁹ In addition to frequently publishing on this subject, I often contact individuals or entities by email or formal letter regarding the subject. Links to formal letters since 2009 are collected on the [Measurement Letters](#) page of [jpscanlan.com](#). Those of special pertinence to the instant matter (or closely related matters regarding the effects of lowering discipline standards on relative racial/ethnic differences in public school discipline rates) include letters to [Federal Judicial Center](#) (July 7, 2016), [House Judiciary Committee](#) (Oct. 19, 2015), [Chief Data Scientist of White House Office of Science and Technology Policy](#) (Sept. 8, 2015), [Department of Health and Human Services and Department of Education](#) (Aug. 24, 2015), [United States Department of Justice and City of Ferguson, Missouri](#) (Mar. 9, 2015), [United States Department of Justice](#) (Apr. 23, 2012), and [United States Department of Education](#) (Apr. 18, 2012). Similar letter may receive greater attention from the recipients under the new administration.