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October 19, 2015


The Honorable Bob Goodlatte, Chairman
The Honorable John Conyers, Jr., Ranking Member
House Judiciary Committee
2138 Rayburn House Office Building
Washington, DC  20515

> Re:  Anomalies in Federal Civil Rights Law Enforcement Policies Arising from
> the Failure of the Government to Understand That Reducing the Frequency of an
> Outcome Tends to Increase Relative Differences Between Rates at Which
> Demographic Groups Experience the Outcome

Dear Chairman Goodlatte and Ranking Member Conyers:

The purpose of this letter is to bring to the attention of the House Judiciary Committee certain anomalies in federal civil rights law enforcement policies arising from the failure of arms of the government to understand that reducing the frequency of an outcome tends to increase, not reduce, relative differences between the rates at which demographic groups experience the outcome.

The following are three important examples of these anomalies. First, for at least two decades the Department of Justice and other government agencies enforcing fair lending laws have encouraged lenders to relax mortgage lending standards in order to reduce relative (percentage) racial/ethnic differences in adverse borrower outcomes like rejection of mortgage loan applications.  But, while relaxing standards tends to reduce relative differences in rates of meeting the standards, it tends to increase relative differences in rates of failing to meet the standards.  Among other types of data illustrating this pattern, test score data show that lowering a test cutoff, while tending to reduce relative differences between the pass rates of higher- and lower-scoring groups, will tend to increase relative differences between the failure rates of such groups; income and credit score data show that lowering an income or credit score requirement, while tending to reduce relative differences between rates at which whites and disadvantaged minorities meet the requirement, will tend to increase relative differences between rates at which such groups fail to meet the requirement.  Hence, while relaxing lending standards will tend to reduce relative racial/ethnic differences in favorable outcomes like approval of mortgage loan applications, it will tend to increase relative racial/ethnic differences in adverse borrower outcomes like rejection of mortgage loan applications.  Unaware that relaxing standards tends to

increase relative differences in adverse borrower outcomes, however, the government continues to monitor the fairness of lending practices on the basis of relative differences in adverse borrower outcomes. Thus, by acceding to government encouragements to relax standards, lenders increase the chance that the government will sue them for discrimination.

Second, for at least several years, the Departments of Justice and Education have been encouraging public schools to relax discipline standards in order to reduce relative racial/ethnic differences in suspensions and expulsions. In December 2014, the Department of Health and Human Services joined in this undertaking. But, as with the relaxing of lending standards, relaxing discipline standards, while tending to reduce relative differences in meeting the standards (and thus avoiding suspension or expulsion), tends to increase relative differences in failing to meet the standards (and thus being subject to suspension or expulsion). Here, too, the government's failure of understanding creates a situation where an entity's acceding to government encouragements to relax standards increases the chance that the government will accuse the entity of discrimination.

Third, on March 4, 2015 the Department of Justice issued a report titled "Investigation of the Ferguson Police Department"[1] finding that police and court practices of Ferguson, Missouri had a disparate impact on the city's African American residents. The premise of the disparate impact finding was that over policing and harsh court procedures caused African Americans to make up a very high proportion of persons experiencing adverse interactions with the police and the courts. But, for the same reason that reducing the frequency of an outcome tends to increase relative difference in experiencing the outcome, reducing the frequency of an outcome tends to increase the proportions groups most susceptible to the outcome make up of persons experiencing the outcome. Thus, reducing adverse interactions between the police/courts of the city of Ferguson and the city's residents will tend to increase the proportion African Americans make up of persons experiencing those interactions. To put that matter more concretely in the context of the report's findings, increasing the number of missed court appearances necessary to trigger issuance of an arrest warrant would tend to increase the proportion African Americans make up of persons against whom such warrants are issued. Once, again, an entity's following the government's express or implied guidance regarding modification of practices will tend to increase the chance that the government will accuse the entity of discrimination.

A key element of each of these anomalies is the fact that, as a result of its failure to understand certain fundamental statistical concepts, the federal government has for many years been systematically leading the public and entities covered by civil rights laws to believe things about the implications of lowering standards and otherwise reducing the frequency of adverse outcomes that is the exact opposite of reality.

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[1] To facilitate consideration of issues raised in letters such as this I include links to referenced materials in electronic copies of the letters. Such copies may be found by means of the Institutional Correspondence subpage of the Measuring Health Disparities page of jpscanlan.com.

  Recent, relatively succinct explanations of the underlying statistical patterns and the anomalies arising from the failure to understand them may be found in my "Things government doesn't know about racial disparities," *The Hill* (Jan. 28, 2014), and "Misunderstanding of Statistics Leads to Misguided Law Enforcement Policies," *Amstat News* (Dec. 2012).[2]  Recent, more extensive treatments of these and related matters may be found in my "Race and Mortality Revisited," *Society* (July/Aug. 2014); "The Perverse Enforcement of Fair Lending Laws," *Mortgage Banking* (May 2014); "Measuring Health and Healthcare Disparities," Federal Committee on Statistical Methodology 2013  Research Conference (March 2014) (FCSM paper); "The Mismeasure of Discrimination," Faculty Workshop, University of Kansas School of Law (Sept. 2013) (Kansas Law paper); and *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. 18, 2014) (TDHCA brief).[3]

  I call the Committee's particular attention to the treatments in "Race and Mortality Revisited" (at 331-335) and the FCSM paper (at 11-12, 30-31) of the recognition by the National Center for Health Statistics (NCHS) that as health and healthcare generally improve (with the consequence that favorable health and healthcare outcomes increase in frequency while the corresponding adverse health and healthcare outcome decrease in frequency), relative differences in favorable health and healthcare outcomes tend to decrease while relative differences in adverse health and healthcare outcomes tend to increase.  The pattern recognized by the NCHS with regard to health and healthcare outcomes applies equally to the types of outcomes at issue in the three civil rights law enforcement situations described above.  So far as the published record

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[2] Other recent fairly succinct treatments of this subject may be found in "The Paradox of Lowering Standards," *Baltimore Sun* (Aug. 5, 2013); "'Disparate Impact':  Regulators Need a Lesson in Statistics" (*American Banker,* June 5, 2012); and "The Lending Industry's Conundrum," *National Law Journal* (Apr. 2, 2012).

[3] While the items referenced above are fairly recent, the body of work in which I have explained the pertinent statistical principles dates back to 1987.  See "Can We Actually Measure Health Disparities?," *Chance* (Spring 2006); "Race and Mortality," *Society* (Jan./Feb. 2000); "Perils of Using Statistics to Show Presence or Absence of Loan Bias," *American Banker* (Jan. 3, 1997); "Statistical Anomaly Penalizes Fair-Lending Effort," *American Banker* (Nov. 18, 1996); "Mired in Numbers," *Legal Times* (Oct. 12, 1996) ; "When Statistics Lie," *Legal Times* (Jan. 1 1996); "Getting it Straight When Statistics Can Lie," *Legal Times* ( June 23, 1993); "Bias Data Can Make the Good Look Bad," *American Banker* (Apr. 27, 1992); "The Perils of Provocative Statistics," *Public Interest* (Winter 1991); "An Issue of Numbers," *National Law Journal* (Mar. 5, 1990); and  "The 'Feminization of Poverty' is Misunderstood," *Plain Dealer* ( Nov. 11, 1987).  The 1992 *American Banker* article and the 1993 *Legal Times* article explained that relaxing lending standards tends to increase relative racial differences in mortgage rejection rates before the federal government began encouraging lenders to relax standards under the mistaken belief that doing so would tend to reduce relative racial differences in mortgage rejection rates.  The January 1996 *Legal Times* article discusses the targeting of a lender for a class action suit in Washington, DC on the basis of study that ranked lenders on the basis of the size of relative differences in mortgage rejection rates (without recognizing that lenient lending criteria tend to be associated with larger relative differences in mortgage rejection rates than stringent criteria).

reveals, however, no arm of the federal government other than NCHS has yet recognized this pattern.

I also call the Committee's attention to my October 8, 2015 letter to the American Statistical Association (ASA), which is the most recent and one of the more comprehensive of my treatments of patterns by which measures of differences between outcome rates tend to be affected by the frequency of an outcome. In addition to recommending that ASA form a committee to address broader problems in analyses of group differences arising from the failure to recognize patterns by which measures tend to be affected by the frequency of an outcome, the letter recommends that the organization formally advise arms of the United States government that reducing the frequency of an outcome tends to increase, not decrease, relative differences in rates of experiencing the outcome. Whether or not the organization follows my recommendation that it formally advise arms of the government on this matter, ASA should shortly have a sufficient understanding of the matter to respond to Judiciary Committee inquiries regarding the effects of reducing the frequency of an outcome on relative demographic differences in experiencing the outcome.

I have previously brought the fact that reducing the frequency of adverse outcomes in the lending, school discipline, or criminal justice contexts tends to increase relative differences in rates of experiencing the outcomes to the attention of arms of the federal government (or a federal contractor providing guidance on the measurement of racial/ethnic disproportionality regarding the Americans with Disabilities Education Act) in the following letters: United States Department of Education (Apr. 18, 2012), United States Department of Justice (Apr. 23, 2012), Board of Governors of the Federal Reserve System (Mar. 4, 2013), Senate Committee on Health, Education, Labor and Pensions (Apr. 1, 2013), Investigations and Oversight Subcommittee of House Finance Committee (Dec. 4, 2013), IDEA Data Center (Aug. 11, 2014), Senate Committee on Health, Education, Labor and Pensions II (Mar. 20, 2015), Financial Markets and Community Investment Program, Government Accountability Office (Sept. 9, 2014), United States Department of Justice (and City of Ferguson, Missouri) (Mar. 9, 2015), Department of Health and Human Services (HHS) and Department of Education (DOE) (Aug. 24, 2015), and Chief Data Scientist of the Office of Science and Technology Policy (Sept. 8, 2015).

Together these letters reflect how universal within the government (with the aforementioned exception of the NCHS) is the failure to understand the relationship of the frequency of an outcome to relative differences in experiencing the outcome and relative differences in failing to experience the outcome. Several of the letters warrant brief further mention below.

One letter warranting further mention is the March 4, 2013 letter to the Board of Governors of the Federal Reserve System. The letter contains one the more comprehensive treatments of patterns by which measures tend to be affected by the frequency of an outcome as such patterns bear on interpretations of data concerning fair lending issues. Further, while many people have difficulty understanding the statistical issues addressed in items like "Race and

Mortality Revisited," the letter to the American Statistical Association, and the letter to the Federal Reserve itself, the Federal Reserve Board has numerous personnel with backgrounds that should enable them easily to understand those issues.  Moreover, in the weeks following receipt of my letter to the Board, persons from the Board repeatedly reviewed the copy of the letter posted on my website.  Even though the letter the Board ultimately wrote me in response did not indicate whether it agreed or disagreed with the points made in my letter, it seems a fair assumption that some Board personnel now have a sound understand of these issues.  Thus, the Board should be able to advise the Committee as to the typical effects of reducing the frequency of an outcome on relative demographic differences in experiencing it.

A second letter warranting further mention is the March 9, 2014 letter to the Department of Justice and the city of Ferguson, Missouri.  The fact that reducing adverse interactions between the police/courts and residents of a city will tend to increase, not reduce, relative racial differences in rates of experiencing those outcomes (and the proportion African Americans make up of persons experiencing those outcomes) is implicit in virtually all my treatments of the relationship between the frequency of an outcome and measures of differences between rates of experiencing (or failing to experience) the outcome.  But I have only rarely treated that issue with a particular focus on criminal justice matters.[4]  The letter to the Department of Justice clarifies the pertinence of the issue to the criminal justice administration matters treated in the Department's report on police and court practices of Ferguson, Missouri, explaining that the premise of the report's disparate impact finding is patently incorrect.

A third letter warranting further mention is the August 24, 2015 letter to the Department of Health and Human Services (HHS) and Department of Education (DOE).  The letter discusses that the Policy Statement on Expulsion and Suspension Policies in Early Childhood Settings that HHS and DOE jointly issued in December 2014 is based on the mistaken premise that generally reducing preschool suspensions and expulsions will tend to reduce the proportions disadvantaged groups make up of persons experiencing those outcomes.  Issuance of the Policy Statement adds HHS to the list of government agencies leading the public and entities covered by civil rights laws erroneously to believe that reducing the frequency of adverse school discipline outcomes tends to reduce relative demographic differences in experiencing the outcomes and the proportion disadvantaged groups make up of persons experiencing the outcomes.

A fourth letter warranting further mention is the September 8, 2015 letter to DJ Patil, Chief Data Scientist of the White House Office of Science and Technology Policy.  In addition to urging Dr. Patil to give attention to broader problems in statistical analyses conducted or funded by the federal government arising from the failure to understand patterns by which measures tend to be affected by the frequency of an outcome, the letter urges Dr. Patil immediately to cause the federal government to cease leading the public and entities covered by

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[4]  See "Mired in Numbers," *Legal Times* (Oct. 12, 1996).  The article explains, for example, that making a three-strikes law a four-strikes law would tend to increase the proportion African Americans make up of persons adversely affected by such law.

civil rights laws erroneously to believe that reducing the frequency of an outcome will tend to reduce relative differences in rates of experiencing the outcome.  As with the Federal Reserve Board, personnel within the Office of Science and Technology Policy should have ample expertise to understand the pertinent measurement issues.  Thus, the Office of Science and Technology Policy should also be able to advise the Committee on the effects of reducing the frequency of an outcome on relative demographic differences in experiencing it.

Other materials that are particularly pertinent to the subject of this letter include the Lending Disparities and Discipline Disparities pages of jpscanlan.com, along with their subpages.  Warranting particular note are subpages to the Discipline Disparities page discussing that – in accordance with what persons with a sound understanding of statistics would tend to expect but in direct contradiction to what the government leads school administrators to expect – recent reductions in public school discipline rates have commonly been accompanied by increased relative racial/ethnic differences in discipline rates.  The subpages, which identify in their titles the pertinent jurisdiction, include:  Los Angeles SWPBS, Denver Disparities, Florida Disparities, Maryland Disparities, California Disparities, Connecticut Disparities,  Maryland Disparities, Minnesota Disparities,  Rhode Island Disparities, St. Paul Disparities, Minneapolis Disparities, Beaverton (OR) Disparities, Portland (OR) Disparities, Montgomery County (MD) Disparities, and Henrico County (VA) Disparities.

Also warranting note is the DOE Equity Report subpage of the Discipline Disparities page.  That subpage discusses data in a November 2012 report of the Department of Education's Office for Civil Rights titled "Helping to Ensure Equal Access to Education: Report to the President and Secretary" showing that, notwithstanding claims of the Departments of Education and Justice that zero tolerance policies lead to large relative racial differences in adverse discipline outcomes, relative racial differences in expulsion rates are smaller in districts with zero tolerance policies than in districts without such policies.

While I do not wish to make this letter unduly complicated, I include a table below in order to facilitate the Committee's understanding of the essential points of the letter without reference to other materials.  Table 1, which is a replication of Table 1 in the American Statistical Association letter and Table 1 in the Chief Data Scientist letter and which underlies a hypothetical used in most of the recent references mentioned at page 3 above, is based on a situation where the means of normal test score distributions of an advantaged group (AG) and a disadvantaged group (DG) differ by half a standard deviation and both distributions have the same standard deviation.  In addition to showing the pass and fail rates of each group, the table shows the ratio of AG's pass rate to DG's pass rate and the ratio of DG's fail rate to AG's fail rate at each cutoff (the first pair of shaded columns, with tan shading in the electronic copy of the letter).[5]   Based on a situation where AG and DG each make up half of the test takers, the final

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[5] While I commonly refer to patterns of relative differences in this letter, the table actually presents rate ratios.  The relative difference is the rate ratio minus 1 where the rate ratio is above 1 and 1 minus the rate ratio where the rate ratio is below one.  One should be careful not to mistakenly refer to the rate ratio as the relative difference.  But the

columns (shaded red in the electronic copy of the letter) show the proportions DG makes up of persons who pass and persons who fail at each cutoff.

**Table 1.  Illustration of effects on relative differences in pass and fail rates of lowering a cutoff from a point where 80% of AG passes to a point where 95% of AG passes, with proportions DG comprises of persons who pass and of persons who fail (when mean scores differ by approximately half a standard deviation and DG comprises 50% of test takers)**

| Cutoff | AG Pass | DG Pass | AG Fail | DG Fail | AG/DG Pass Ratio | DG/AG Fail Ratio | DG Prop of Pass | DG Prop of Fail |
|--------|---------|---------|---------|---------|------------------|------------------|-----------------|-----------------|
| High | 80% | 63% | 20% | 37% | 1.27 | 1.85 | 44% | 65% |
| Low | 95% | 87% | 5% | 13% | 1.09 | 2.60 | 48% | 72% |

According to the specifications underlying the table, at the cutoff where 80% of AG passes the test, approximately 63% of DG would pass the test (with corresponding failure rates of 20% for AG and 37% for DG).  The ratio of AG's pass rate to DG's pass rate would be 1.27 while the ratio of DG's fail rate to AG's fail rate would be 1.85.

When the cutoff is lowered to the point where the pass rate for AG is 95%, the pass rate for DG would be approximately 87% (with corresponding failure rates of 5% for AG and 13% for DG).  The ratio of AG's pass rate to DG's pass rate would thus decrease to 1.09 (from 1.27), while the ratio of DG's fail rate to AG's fail rate would increase to 2.60 (from 1.85).  That is, the relative difference in the outcome that was reduced in frequency (test failure) increases, while the relative difference in the opposite outcome (test passage, which increased in frequency) declines.

As shown in the final two columns of Table 1, lowering the cutoff and reducing the frequency of test failure causes increases in the proportion DG makes up of persons who pass the test (from 48% to 52%) and the proportion DG makes up of persons who fail the test (from 65% to 72%).

Other tabular or graphical illustrations of these and related patterns may be found in "Race and Mortality Revisited" and the other extended treatments of these issues mentioned at page 3 above, as well as in methods workshops given over the last three years at American universities. [6]

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distinction between the two terms is not pertinent to the discussion here of patterns by which relative differences tend to be affected by the frequency of an outcome.

[6]  See "The Mismeasure of Discrimination," Center for Demographic and Social Analysis, University of California, Irvine (Jan. 20, 2015); "The Mismeasure of Demographic Differences in Outcome Rates" Public Sociology Association of George Mason University (Oct. 18, 2014); "Rethinking the Measurement of Demographic Differences in Outcome Rates," Maryland Population Research Center of the University of Maryland (Oct. 10, 2014); "The Mismeasure of Association:  The Unsoundness of the Rate Ratio and Other Measures That Are

Finally, I urge the Committee to consider the following points. The materials above discuss implications of the patterns by which measures tend to be affected by the frequency of an outcome, and the failure to understand those patterns, with regard to certain subjects to which I have had occasion to give particular attention. Those patterns have implications with regard to a wide range of subjects to which I have not given substantial attention. For example, it appears that issues concerning the impact of voter identification requirements on particular demographic groups are commonly analyzed in terms of relative differences in failure to meet a requirement. Thus, it should be recognized that relaxing a voter identification requirement will tend to increase relative differences in meeting it. Similarly, as discussed in the American Statistical Association letter (at 37-38) and the IDEA Data Center Disproportionality Guide subpage of the Discipline Disparities page, any sound discussion of things like the disproportionate assignment of certain racial/ethnic groups to special education programs must be informed by an understanding that generally reducing assignment rates will tend to increase relative differences in assignment rates and the proportion certain groups make up of persons assigned. Further, as discussed in the TDHCA brief, the Kansas Law paper, and pages 31-32 of the American Statistical Association letter, there are many serious problems in standard analyses of disparate impact and other discrimination issues. All these matters warrant the Committee's attention.

The principal purpose of this letter, however, is to call the Committee's attention to situations where agencies of the federal government lead the public and entities covered by civil rights laws erroneously to believe that reducing the frequency of an outcome tends to reduce relative differences in experiencing the outcome and where a covered entity's following the government's guidance increases the chances that the government will accuse the entity of discrimination.

If the Committee has questions about any aspect of this letter, please do not hesitate to contact me.

Sincerely,

**/s/ James P. Scanlan**

James P. Scanlan

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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. 5, 2014); "The Mismeasure of Group Differences in the Law and the Social and Medical Sciences," Institute for Quantitative Social Science at Harvard University (Oct. 17, 2012); "The Mismeasure of Group Differences in the Law and the Social and Medical Sciences," Department of Mathematics and Statistics of American University (Sept. 25, 2012).