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January 13, 2015

Rachel J. Geman, Esq. **By Email**
Lieff Cabraser Heimann & Bernstein, LLP
250 Hudson Street, 8th Floor
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Re: (1) Withdrawal of *amicus curiae* brief of Ian Ayres in *Texas Department of Housing and Community Development, et al. v. The Inclusive Communities Project, Inc.*, Supreme Court No. 13-1731;

(2) modification of the Statement of Interest of *Amicus Curiae* in the Ayres brief to reflect the interest of the Lieff Cabraser firm in issues raised in the *amicus curiae* brief of James P. Scanlan to which the Ayres brief responds (especially respecting the potential impact of issues addressed in Section I.C of the Scanlan brief on *Adkins v. Morgan Stanley*, No. 1:12-cv-7667-VEC (S.D.N.Y.), and *Chen-Oster v. Goldman Sachs, Inc.*, No. 10-cv-6950 (S.D.N.Y.))

Dear Ms. Geman:

On December 23, 2014, Yale Law School Professor Ian Ayres filed an *amicus curiae* brief[1] on behalf of respondent in the referenced case. Professor Ayres was represented in the matter by the firm of Lieff Cabraser Heimann & Bernstein, LLP (Lieff Cabraser). The brief was authored by you and Jason L. Lichtman, as well as, apparently, Professor Ayres.[2] You are listed as counsel of record. The brief is entirely a purported response to an *amicus curiae* brief[3] I filed in the case on November 17, 2014.

[1] Underlinings reflect links to the underlined document in electronic copies of this letter. The link the Ayres brief is to the copy that appears on my website (jpscanlan.com), where the cover will provide a URL for this letter as it appears on my site. Any corrections to this letter will be made on a second copy of the letter, which will be made available by a link on the original maintained on my site.

[2] The brief is not completely clear with respect to whether Professor Ayres is acting as counsel in the case. The inclusion of his name and placement of "Attorneys for *Amicus Curiae*" on the cover suggests that he is acting as counsel, as does the use of the first person in the Statement of Interest. On the other hand, Professor Aryes' name does not appear on the signature page.

[3] The link is to a copy of the brief as it appears on my website.

The principal purpose of this letter is to request (1) that you withdraw the Ayres brief because it will mislead the Court in material respects, and (2) that, in the event that you choose not to withdraw the brief, you amend the Statement of Interest of *Amicus Curiae* to set out the financial interest of the Lieff Cabraser firm in the subject of my brief, particularly with respect to the issues addressed Section I.C of the brief, and to explain the manner in which the brief was financed.

Before providing a more detailed summary of the content of this letter, I note the following respecting a matter that only recently came to my attention. An important aspect of my brief, though nowhere reflected in the Ayres brief, involves the perverse consequences of the federal government's failure to recognize that reducing the frequency of an adverse outcome will tend to increase relative differences between the rates at which advantaged and disadvantaged groups experience the outcome and the implications of said failure and consequences with respect to a key issue in the case (as discussed, for example, in the brief at 1, 2-3, 6-7, 32-34).[4] As discussed at the close of Section A.3 *infra*, on December 25, 2014, Professor Ayres, along with fellow Yale Law Professor Daniel Markovits, published an op-ed in the *Washington Post* suggesting that certain modifications to police practices would reduce relative racial differences in rates of experiencing certain adverse outcomes. The modifications are of a type that would generally reduce the frequency of the adverse outcomes in question. Yet the Ayres/Markovits op-ed shows no understanding whatever of the reasons to expect such general reductions to increase relative racial differences in rates of experiencing those outcomes. Thus, a question to keep in mind throughout the reading of this letter is how a person can, on December 23, 2914, file an *amicus curiae* brief in the Supreme Court stridently attacking a brief that in significant part is devoted to pointing out the perverse consequences of the federal government's failure to understand that reducing the frequency of an adverse outcome tends to increase relative differences in rates of experiencing the outcome, and, on December 25, 2014, publish a commentary reflecting the same failure of understanding.

Section A of this letter addresses the manner in which the brief is misleading with respect to the subjects of my brief that the Ayres brief purports to address. It also explains the pertinence of the arguments in Section I.B and I.C of my brief to litigation in which Lieff Cabraser has an interest. Such pertinence includes the fact that, if the Court should accept the arguments in Section I.C of my brief, such acceptance could require dismissal of all claims in *Adkins v. Morgan Stanley*, No. 1:12-cv-7667-VEC (S.D.N.Y.), a putative class action in which Lieff Cabraser and you personally represent the plaintiffs and in which Professor Ayres has provided an expert report, and dismissal of the compensation claims in *Chen-Oster v. Goldman Sachs, Inc.*, No. 10-cv-6950 (S.D.N.Y.), another putative class action in which Lieff Cabraser and you personally represent the plaintiffs.

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[4] See, e.g., "Case may reveal government's perverse fair lending enforcement," *The Hill* (Dec. 29, 2014); "Is HUD's Disparate Impact Rule Unconstitutionally Vague?," *American Banker* (Nov. 10, 2014); "Race and Mortality Revisited," *Society* (July/Aug. 2014); "The Perverse Enforcement of Fair Lending Laws," *Mortgage Banking* (May 2014); "Things government doesn't know about racial disparities," *The Hill* (Jan. 28, 2014); "Misunderstanding of Statistics Leads to Misguided Law Enforcement Policies, " *Amstat News* (Dec. 2012)

Professor Ayres has represented to the Court that he has filed his brief "to correct the misunderstandings and misapprehensions" contained in my brief. And the first paragraph of the Introduction and Summary of Argument Professor Ayres' brief (at 4) indicates that Professor Ayres takes issue with the entirety of Part A of the Argument section of my brief. Yet the Ayres brief contains not a single word to acknowledge the existence of Section I.B or Section I.C of Part I of my brief or the arguments contained therein.[5]

Section A of the letter also, in explaining certain issues concerning Professor Ayres' understanding of the issues raised in Section I.A of my brief, explains why plaintiffs must eliminate a misleading statement from Paragraph 102 of the *Adkins v. Morgan Stanley* complaint.

Section B of the letter discusses reasons why, assuming you decline to withdraw the brief, you should amend the Statement of Interest of *Amicus Curiae* to discuss the interest of Lieff Cabraser in the subject of Section I.C., both with respect to cases such as those mentioned above and so-called job segregation or assignment discrimination cases of the type epitomized by *Butler v. Home Depot*, No. C94 4225 (N.D. Cal.). The *Home Depot* case is a landmark Lieff Cabraser case, which the firm highlights on its website respecting the firm's securing an $87.5 million dollar settlement in the case. The case is also highlighted as an example of superficially appealing but fundamentally unsound litigation in my "Multimillion-Dollar Settlements May Cause Employers to Avoid Hiring Women and Minorities for Less Desirable Jobs to Improve the Statistical Picture," *National Law Journal* (Mar. 27, 1995), and is of the type alluded to in the "Partial picture problem" section of my "The Perverse Enforcement of Fair Lending Laws," *Mortgage Banking* (May 2014). Those articles are cited in Section I.C of my brief (at 29, 30) in support of the arguments in the section that it is not possible to analyze discrimination issues based on information pertaining solely to persons who accepted some outcome or situation.

Section B of the letter explains that in light of the interest of Lieff Cabraser in matters to which issues raised in Section I.C are strongly pertinent, the Statement of Interest of *Amicus Curiae* should be amended to (a) address the financial interest of Lieff Cabraser in matters potentially affected by the Court's treatment of issues addressed in my brief, and in doing so, explain why the brief fails to address the arguments set out in Section I.B and I.C of my brief, and (b) describe the manner in which the costs for the Ayres brief were covered, including whether Professor Ayres received any compensation relating to the brief from the firm and whether any expenses relating to the brief, including time of firm members or employees and any compensation to Professor Ayres, were billed to any matter other than the firm's representation of Professor Ayres in the preparation and filing of his *amicus curiae* brief.

This letter is also to alert you that, whether or not you withdraw the brief, I will be addressing the misleading nature of the brief with the Bar of the United States Supreme Court,

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[5] See also the statement (at 5): "Thus, Scanlon's [*sic*] entire brief attempts to refute a false premise." The statement both implies that the Ayres brief is treating the entire Scanlan brief and disguises the existence of Section I.C.

unless something unforeseen should cause me to conclude that the misleading aspects of the Ayres brief do not reflect either an intention to mislead or serious negligence by those responsible for filing it.

Further, the manner in which the brief calls into question the soundness of my work and my candor towards the Court raises defamation issues. I do not know what privileges apply to a gratuitously submitted *amicus curiae* brief, either in general or in the peculiar circumstances here. But any circulation of the brief other than to parties or *amici curiae*, especially if not accompanied by my brief and this letter, and any statements made about the issues I raise in the letter and whether there is merit to the points I make, will not be privileged.

Finally, this letter is to alert you of the following regarding my circulation of this letter, which, as indicated in note 1, is posted on my website. The Ayres brief has the potential to cause many persons to question the soundness of the large body of statistical work I have created over the last 27 years as well as my candor as reflected in my *amicus curiae* brief in this case (or as reflected in a failure on my part to mention the Ayres brief while discussing my brief or the issues it addresses). Thus, when circulating my brief I may address the Ayres brief in some manner, while referencing any material that usefully discusses the pertinence of the Ayres brief to issues in my brief or to my work generally. I have already made a reference to the Ayres brief as it bears on my brief in a January 8, 2015 comment on a blog entry by the Executive Director of the American Statistical Association. I will shortly be providing a copy of my brief to the organizer of a January 20, 2015 methods workshop titled "The Mismeasure of Discrimination" at the Center for Demographic and Social Analysis at the University of California, Irvine, to circulate to potential attendees in advance of the session. When doing so, I will include with my brief links to both the Ayres brief and this letter.

Further, but for the Ayres/Markovits op-ed piece, there would be little reason for me to discuss the Ayres brief at the January 20 workshop unless someone posed a question about the brief. But the op-ed piece constitutes a prominent illustration of a widespread, indeed almost universal, misunderstanding regarding a highly topical issue in which I have a strong interest, in fact, one as to which I have submitted a number of commentaries over the last few months.[6] So I may use the item as an illustration of that particular misunderstanding, possibly with mention of the incongruity of such a misunderstanding on the part of someone who had just responded to my *amicus curiae* brief (with or without making reference to this letter).

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[6] The key point is that most actions that generally reduce adverse outcome rates in the criminal justice system tend to increase relative racial differences in rates of experiencing those outcomes, and are likely to do so even when any bias in the system is being reduced. See my "Mired in Numbers," *Legal Times* (Oct. 12, 1996). That the Ayres/Markovits op-ed suggests that racial bias will be reduced due to the reductions in discretionary decisions may or may not make it a more useful illustration than recent reportage the seems to take for granted that reducing arrests and other adverse outcomes rate will tend to reduce relative racial differences in rates of experiencing those outcomes. For the Ayres/Markovits mention of the relationship of discretion to bias implicates many issues about problematic inferences based on the fact that one relative difference is larger than another without consideration of the implications of the frequency of an outcome or that one might draw an opposite inference based on comparative sizes of relative differences in the opposite outcome. See "Race and Mortality Revisited," *Society* (July/Aug. 2014) at 340-41; the Federal Committee on Research Methodology 2013 Research Conference paper, discussed *infra* , at 13; October 9, 2012 Letter to Harvard University at 40-41; and the Offense Type Issues page on jpscanlan.com.

In addition to copying this letter to counsel for parties in the instant case, I will be providing it to counsel in *Adkins v. Morgan Stanley* and *Chen-Oster v. Goldman Sachs* in order that they may determine the relevance of the points made in the letter and my *amicus curiae* brief to issues in those cases. And I will circulate the letter to various other persons who I believe may find the letter of interest or be aided by it in attempting to appraise the pertinence of the Ayres brief to the points in my brief. I may also refer to this letter, and the actions taken in response to it, in materials I create to address issues concerning the quality and candor of scientific and legal discourse.

In light of the manner in which I will be circulating and commenting on the Ayres brief in the future, often with reference to this letter, if there is anything in the letter that you believe to be inaccurate or unfair, please let me know. If there is merit to any point you make, I will address the matter to which the point pertains.

A. Issues Concerning Misleading Aspects of the Ayres Brief

1. Background

The Ayres brief is entirely devoted to discussing the *amicus curiae* brief I filed on behalf of petitioners in the case on November 17, 2014. In the Statement of Interest of *Amicus Curiae*, Professor's Aryes describes his background, and concludes with the following paragraph (at 3; emphasis added):

> Consistent with my sustained efforts to improve the analysis of disparate impact testing in a wide variety of settings, I have a strong interest in ensuring that the Court's treatment of this case is informed by a sound understanding of pertinent statistical issues. *In particular, I write to correct the misunderstandings and misapprehensions contained in James P. Scanlan's amicus brief.*

I highlight the last sentence because it reflects a representation to the Court that the true reason for filing the brief is to correct certain misunderstandings and misapprehensions in my brief. Thus, if the Ayres brief is intended to mislead the Court in any way, the highlighted statement would be a false representation.

This letter, however, is a request that you withdraw the Ayres brief because, irrespective of any intention to mislead the Court on the part of Professor Ayres or Lieff Cabraser, the brief is certain to mislead some members of the Court in material respects. Indeed, members of the Court made fully aware of the actual issues in my brief and the extent to which the Ayres brief accurately characterizes the points of my brief, and the extent to which the Ayres brief actually responds to those points, are likely to regard the Ayres brief as not only shockingly misleading, but insulting to the intelligence of the Court.

I will eventually address the manner in which the Ayres brief is misleading in considerable detail on a web page or some other place with directions to such place provided in

the online copy of this letter. But by way of focusing your attention to certain issues in a way that will enable you to act in a timely manner with respect to withdrawal of the brief before it can mislead the Court, I note that, all other matters aside, the Ayres brief would lead many or most readers to believe that my brief maintains (a) that the only problem with standard measures of differences between outcome rates for appraising the strength of an association reflected by a pair of outcome rates (sometime put as the strength of the forces causing the outcome rates to differ) is that one may reach different conclusions about the comparative strength of the associations reflected by two pairs of outcome rates depending on whether one examines the favorable outcome or the corresponding adverse outcome; (b) that my brief does not discuss a means of measuring the strength of an association reflected by a pair of outcome rates that is not subject to the issues I raise about the ways standard measures of differences between outcome rates tend to be affected by the frequency of an outcome; and (c) that my brief does not say that such means exists in the form of the probit (much less discuss the procedure at great length and refer the Court to other places where it is discussed further).

Assuming that the Ayres brief would lead the Court to believe these things, I suggest that the Court and other persons who fully understand the issues would find the brief to be manifestly misleading and that the failure to discuss my extended treatment of the probit, assuming that failure was fully informed, in and of itself, warrants sanction by the Bar of the Supreme Court. On the other hand, persons who did not understand the issues would believe both that (a), (b), and (c) are true, and that such fact dramatically undermines the arguments in my brief (in fact, makes the brief not worth reading).

Thus, I suggest that one of the first things you should consider is whether the Ayres brief would lead many readers to believe (a), (b), and (c), and whether (a), (b), and (c) are true. You presumably know whether the Ayres brief was intended to lead readers to believe (a), (b), and (c), and whether it was intended to do that while the drafters knew those things to be false. But irrespective of considerations of intent, if the brief has the potential to mislead the Court as to the above or other significant matters, your obligation is to withdraw the brief or advise the Court of each matter as to which you believe the brief may mislead it, and to do so as soon as possible.

I also suggest that in considering this matter you seek the guidance of persons with the expertise necessary to fully understand the issues raised in my brief and the nature of the purported responses to it in the Ayres brief. One person who I suggest could be especially useful for you to consult on this matter is Hughes-Rogers Professor of Economics at Princeton University Henry S. Farber. Professor Farber provided expert testimony on behalf of plaintiffs in *Chen-Oster v. Goldman Sachs, Inc.*, Case No. 10-6950 (S.D.N.Y.), a putative class action mentioned above. The memorandum in support of the class certification motion (at 12) in the case describes Professor Farber as "a recognized expert in labor economics." Thus, I would suggest that you request that Professor Farber review my brief and the Ayres brief, along with this letter, and that you elicit from him whether he regards the Ayres brief to be misleading in any material respect, how he might characterize the extent to which it is misleading, and whether he would allow a brief with the content of the Ayres brief to be filed on his (Professor Farber's) behalf.

If I may state the obvious, with regard to the extent to which the brief is misleading, one must bear in mind that several pages of entirely correct discussion of something that is not responsive to an issue raised in my brief, but that may be perceived as responsive to issues in my brief or as pointing out a serious omission in my brief, can only be regarded as several pages of text that are misleading. With that in mind, I think you will learn that an astute observer will regard all but quite minor parts of the Ayres brief to be materially misleading.[7]

One reason that Professor Farber might be an excellent person to provide advice on this matter is that a key way in which the Ayres brief is materially misleading involves the brief's characterization of certain measures discussed in my brief as simplistic ones that statisticians would not employ to measure a disparate impact (and certain other characterizations of the issues I raise), while ignoring the extensive treatment my brief gives to a procedure known as the probit. I maintain in the brief, as I have maintained in scores of places since 2007, that the probit is the only sound, or at least soundest, means of quantifying the strength of the forces causing outcome rates of advantaged and disadvantaged groups to differ. Professor Farber, as you know, relies on the probit in his analysis on behalf of the plaintiffs in *Chen-Oster v. Goldman Sachs*,

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[7] The Ayres brief states (at 26): "But Congress has unequivocally determined that a disparate impact cause does lie in the employment context." This statements is somewhat misleading because it ignores (as the rest of the Ayres brief does as well) the question of whether HUD's failure of understanding, and the anomalies arising from that failure, provide reason for the Court to refuse to accord deference to HUD's interpretation of the Fair Housing Act. But the statement in the Ayres brief does suggest the legitimate question of whether there is any more reason to find the disparate impact provision in the Fair Housing Act, as articulated in HUD's discriminatory effects rule with its less discriminatory alternative requirement, to be unconstitutionally vague than there is to find the disparate impact provision of Title VII (with the same less discriminatory alternative requirement) unconstitutionally vague. Certainly the "four-fifths rule" of the Uniform Guidelines on Employee Selection Procedures does nothing to mitigate the vagueness problem, given that the rule, like all rate ratios, is an illogical measure of association. See my Four-Fifths Rule page. Moreover the guidelines, in effect, advise the following: Disparate impact will be typically measured in terms of relative differences in the favorable outcome (and thus lowering a standard will tend to reduce the disparate impact) but at some point it will become appropriate to measure the disparate impact in terms of relative differences in the adverse outcome (at which time further lowering of the standard will tend to increase the disparate impact). See my "Getting it Straight When Statistics Can Lie," *Legal Times* (June 23, 1993), and my Less Discriminatory Alternative - Substantive page. The probit, however, would at least address that anomaly and provide a reasonable measure of disparate impact (though there would remain some complex issues, as discussed in the Section E of the Kansas Law paper and Section I.A.3 of my brief). The Ayres brief, failing even to acknowledge the less discriminatory alternative issue, and failing actually to say anything at all about how one might determine whether one impact is larger than another, offers nothing useful in the area. But there is much need for sorting things out in this area, particularly given that no case has yet recognized that lowering a standard tends to increase relative differences between rates of failing to meet the standard.

Whatever the strength of an argument that the disparate impact provision of Title VII is unconstitutionally vague, there would seem a strong argument that Section 612(a)(22) of the Individuals with Disabilities Education Improvement Act of 2004 is unconstitutional – not for vagueness, however, but simply for irrationality. For the provision states that where "significant discrepancies are occurring in the rate of long-term suspensions and expulsions of children with disabilities" schools must implement procedures that typically reduce overall suspension and expulsion rates. But almost certainly discrepancies will be measured in terms of relative differences in suspension and expulsion rates. So the provision is essentially equivalent to a requirement that where substantial relative differences in test failure rates are observed, schools must lower test cutoffs. That, of course, will tend to increase relative differences in test failure rates. So far, however, practically no one knows this. See my Disabilities – Public Law 104-446 page and "Race and Mortality Revisited" at 342.

discussing it in his initial expert report (at 25) as the regression model "that is appropriate for cases where the outcome variable takes on two discrete values."[8] Whether or not Professor Farber's preference for the probit pertains to the manner in which the method addresses issue I have raised about the ways standards measures of differences between outcome rates tend to be affected by the frequency of an outcome, his thinking regarding the utility of the probit may precisely accord with the ideas I express in Section I.A.2 of my brief ("A Theoretically Sound Measure of the Strength of the Forces Causing Outcome Rates of Advantaged and Disadvantaged Groups to Differ") and scores of other places.[9] Thus, Professor Farber would appear well-suited to comment on the way that the Ayres brief faults my brief for discussing only simplistic measures without mentioning my extensive discussion of the probit, and on whether the Ayres brief affirmatively leads the Court to believe both (a) that my brief fails to discuss any such measure and (b) that said failure in my brief is highly significant.

Professor Farber might also be well-suited to provide guidance on numerous other issues concerning the bearing of points raised in my brief on existing Lieff Cabraser litigation and implications of the failure the Ayres brief to respond to such points. Such issues include whether the Court's acceptance of the arguments in Section I.C of my brief would lead ultimately to the dismissal of all claims in *Adkins v. Morgan Stanley* and the compensation claims in *Chen-Oster v. Goldman Sachs.* They also include the pertinence of the points in Section I.B. of my brief to analyses described in Paragraphs 119 and 120 of the *Adkins v. Morgan Stanley* complaint and Professor Ayres' own work (as discussed in Section A.3 below with respect to Professor Ayres's expertise regarding issues raised in my brief) and whether it would be possible for Professor Ayres to respond to the points of Section I.B (assuming a response exists) without discussing my reliance on the probit to demonstrate the problematic aspects of the measures addressed in Section I.B.

Professor Farber should also be able to provide guidance on the ways the measurement issues discussed in Section I.A of my brief bear on varying aspects of the *Adkins v. Morgan Stanley* complaint, and whether plaintiffs are obliged to correct certain statements in the

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[8] Professor Farber also discusses the probit at various places in his rebuttal expert report (at 18, 22-25 and 31). The probit is also discussed in the plaintiffs' reply class certification memorandum (at 13). I assume that it is discussed in various other documents in the case inasmuch at the utility of the method, and differing versions of it, seem to be subjects of controversy in the case.

[9] Indeed, Professor Farber might well advise you that the obvious solution to the measurement problems I raise in Section I.A.1 is the probit, which I in fact propose as the solution in Section I.A.2, and then repeatedly discuss with respect to a range of issues. Had I not included such a solution, Professor Ayres, who has himself employed the probit as in the 2005 article discussed *infra*, might well have proposed the probit as such solution. But the Ayres brief instead leads the reader to believe that there is nothing in my brief like the probit, and then discusses results of a regression aimed at identifying an unjustified disparate impact while taking certain factors into account. In doing so, the Ayres brief does not address the key requirement of a sound measure as discussed in Section I.A.1 of my brief – that the measure yield the same result for each row of data in Table 1 and each row of data in Table 2. Rather, it uses the regression to treat an entirely different issue, while leading the reader to believe the regression is addressing the issues raised in my brief. I believe, moreover, that Professor Farber, to the extent he can divine the methodology in the Ayres regression, will tell you that it would not yield the same results for each row of Tables 1 and 2. Only the probit – or a method of reaching the same result such as I developed in 2007 – will do that.

complaint, especially in Paragraph 102 (as also discussed in Section A.3 below with respect to Professor Ayres's expertise regarding issues raised in my brief).[10]

Of course many persons without statistical backgrounds could provide guidance on key issues respecting whether the Ayres brief is materially misleading. Indeed, any reasonably intelligent person who read the briefs carefully, and who would not be unduly influenced by the credentials Professor Ayres sets out in the Statement of Interest of *Amicus Curiae* and the use of terms like "robust" or "regression" or "learned art" (and who was not confused by the shear incongruity of the submission of such a brief to the United States Supreme Court, especially by a Professor of Yale Law School purporting to act as a friend to the Court) could probably give a reasonable appraisal of the matter at least with respect to the crucial failure of the Ayres brief to acknowledge the discussion of the probit in my brief. Such person might also be able to divine that the Ayres brief never says anything whatever in response to issues I raised concerning determining which of two justified practices has the less discriminatory effect – the issue most pertinent to my contention that the Court should refuse to accord the usual deference to an agency's interpretation of the statute it enforces. Indeed, an intelligent person could probably recognize that something is quite amiss in the Ayres brief simply by comparing its characterization of arguments in my brief with the Table of Contents of the latter document.

Persons without statistical backgrounds, however, might not be able to divine such things as whether Professor Ayres brief provides any information on how to compare the strength of an association reflected by one pair of outcome rates with that reflected by another pair of outcome rates or whether the regression results presented by Professor Ayres have anything to do with the issues raise in my brief (or by any torturing of the English language can be regarded as based on the data in my Table 1). Many people intelligent people might well believe that the language at 11-12 of the Ayres brief that purports to respond to my point that "[i]ssues as to the … the strength of the forces causing the outcome rates to differ are essentially the same whether disparate treatment or disparate impact is alleged" might both (a) make sense and (b) be pertinent

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[10] Professor Farber should also be able to provide you guidance as to whether Professor Ayres' testimony in the *Adkins v. Morgan Stanley*, as reflected in the portion of it not under seal, is inconsistent with the Ayres brief. The Ayres brief treats the odds ratio discussed in my brief as a "summary statistic" that Professor Ayres disparages (at 6, 8, 19). But the Table of Contents to his report contrast the odds ratio (the subject of the report's Appendixes 6A to 7D) with what the report terms "Summary Statistics" (the subject of the report's Appendixes 5A to 5D). More important, however, the odds ratio appears to be the key measure used in Professor Ayres' *Adkins v. Morgan Stanley* testimony. It is true that the odds ratio in the *Adkins v. Morgan Stanley* testimony is derived from a logistic regression, which presumably attempted to adjust for certain characteristic. But that has nothing to with the issues I raise about the unsoundness of the odds ratio as a measure of association.

Further in that regard, the Ayres brief states (at 7): "Although Scanlan mentions in passing that analysts attempting to estimate disparities in terms of odds ratios might use logistic regressions, he does not discuss the statistical techniques underlying the regression." In context, that statement can be regarded as an affirmative effort to conceal the discussion of the probit in my brief. More to the point here, however, the failure to "discuss the statistical techniques underlying the regression" has nothing to do with my criticism of the odds ratio. That criticism turns on the fact that the odds ratio fails to meet the essential criterion of remaining constant as there occurs a change in the frequency of an outcome akin to that effected by the lowering of a test cutoff, as illustrated in Tables 1 and 2 of my brief. The Ayres brief never responds to that point and hence never defends logistic regression.

to some point of consequence in my brief. But, as I suggest Professor Farber will advise you, such persons would be mistaken, just as the Court would be mistaken if it believed such things.

Professor Farber can also advise you regarding, among many other things, (a) whether any point the Ayres brief makes about the failure to discuss statistical significance in my brief has the remotest bearing on the strength of association issues that are the principal subject of my brief or whether consideration of statistical significance issues could affect any point made in my brief; (b) the soundness of my discussion of the pertinence of statistical significance in Section D of the Kansas Law paper referenced throughout my brief and at page 19 of the Ayres brief (which section, titled "The Role of Statistical Significance Testing," can be directly accessed here); and (c) the implications of the failure of the Ayres brief to discuss the material in the Kansas Law paper. For astute statisticians will advise you that the discussion of statistical significance in the Ayres brief is a diversion of the first order and shows either a remarkable obtuseness on the part of the authors of the Ayres brief or a substantial disdain for the acuity of the persons who would read it.

I also encourage you to seek guidance on the potential of the Ayres brief to mislead from persons throughout the Lieff Cabraser firm, including from the ethics officer. The key inquiry, of course, must be aimed at determining whether some intelligent persons might find the brief materially misleading. For the fact that some intelligent persons find the brief misleading means there is a substantial likelihood that some members of the Court will be misled by it. And if that is the case, you are obligated to withdraw the Ayres brief or alert the Court as to ways in which the brief may mislead it.

2. Questions for Statistical Expert

To facilitate your immediate consideration of the matter, I set out immediately below several questions that might be usefully put to Professor Farber or such other person from whom you might seek guidance on this matter. Understand that I have no interest in learning what answers to these questions you receive. But in considering whether you are obligated to withdraw the Ayres brief, you are likely to benefit substantially from the opinions of Professor Farber or persons of like background.

1. Is the Ayres brief likely to lead readers to believe that the Scanlan brief's sole objection to standard measures of differences between outcome rates for appraising the strength of an association is that one may reach different conclusions depending on whether one examines the favorable outcome or the corresponding adverse outcome?

2. Does the Scanlan brief make clear, and do the each of the papers to which the brief calls the Court's attention at page 5, including the 2006 *Chance* editorial titled "Can We Actually Measure Health Disparities?," make clear, that Scanlan maintains that any measure of the association reflected by a pair of outcome rates – regardless of whether it is frame invariant – is an unsound measure if it is affected by a change in the frequency of an outcome akin to that effected by the lowering of a test cutoff or a general reduction in poverty?

3. Do materials on jpscanlan.com make clear that Scanlan has made the same point in more than a hundred other places since 2006, including methods workshops at Harvard and other major universities?

4. Is the Ayres brief likely to lead readers to believe that the Scanlan brief never posits that there exists a theoretically sound measure of the strength of the forces causing a pair of outcome rates to differ?

5. Does the Scanlan brief (a) maintain that there exists a theoretically sound measure of the strength of the forces causing outcome rates to differ (as in the Section I.A.2, which is titled "A Theoretically Sound Measure of the Strength of the Forces Causing Outcome Rates of Advantaged and Disadvantaged Groups to Differ"); (b) explain (at 25) that such measure can be derived from a "procedure known as the probit" ;[11] (c) describe such measure at length and refer the Court to other places where Scanlan has addressed the matter, including three of the four papers to which my brief calls the Court's attention at page 5 (specifically, "Race and Mortality Revisited," (July/Aug. 2014); "Measuring Health and Healthcare Disparities," Proceedings of the Federal Committee on Statistical Methodology 2013 Research Conference (2014), and "The Mismeasure of Discrimination," Faculty Workshop, the University of Kansas School of Law (Sept. 20, 2013) (Kansas Law paper)); (d) advise the Court (at 19 n.14) as to how the measure may be used to quantify the disparity at issue in the particular case before the Court and to avoid reaching false conclusions about whether any disparate impact is increasing or decreasing, while referring the Court to a web page where the matter is discussed further with respect to the facts of the case before the Court; and (e) discuss such measure further with respect to the issues addressed in Sections I.A.3, I.B, I.C, and Part II of the brief.

6. Does jpscanlan.com make clear that Scanlan has discussed the probit in at least scores of other places since 2007, including methods workshops at Harvard and other major universities?[12]

7. If you read the Ayres brief without having read the Scanlan brief, what would your reaction be on learning of the treatment of the probit in the Scanlan brief?

I suggest that only possible answers to questions 1 to 7 compel withdrawal of the brief.

Nevertheless, I list a numbers of additional questions below that may shed further light on the misleading nature of the Ayres brief and the significance of things not addressed in the Ayres brief. I continue the numbering from the list above. In addition, I will likely post a far

[11] Both Professor Farber and Professor Ayres (in the 2005 article discussed below) describe the probit as a regression method and one that can adjust for characteristics. That it is a regression method, however, has no bearing on it utility with respect to the specific issues discussed in my brief (though some bearing on the extent to which the Ayres brief is misleading).

[12] As discussed in note 16 at 337 of "Race and Mortality Revisited," in 2007 I developed a procedure for deriving from a pair of rates the difference between means of the underlying distributions of factors associated with experiencing an outcomes, terming the result the "EES," for "estimated effect size." In 2010 I came to understand that the procedure already existed in the form of the probit. See page 18 of my brief.

more comprehensive list of useful questions within a short time, which list will be accessible here.

8. If the Court should accept the arguments in Section I.C of the Scanlan brief, is it likely that all claims in *Adkins v. Morgan Stanley* and the compensation claims in *Chen-Oster v. Goldman Sachs* will have to be dismissed?

9. Does the Scanlan brief clearly maintain that for a measure to effectively quantify the strength of the forces causing a pair of outcome rates to differ, the measure must remain constant when there occurs a general change in the frequency of the outcome akin to that effected by altering a test cutoff? Does the Ayres brief say anything about that issue?

10. Is it fair to say that a key issue raised in the Scanlan brief concerns how one can determines which of two justified practices has the less discriminatory effect? Does the Ayres brief say anything about that question?

11. Does the Ayres brief say anything about how one might determine whether the strength of the forces causing one pair of outcome rates to differ is greater than the strength of the forces causing another pair of outcome to differ?

12. Does the regression discussed in the Ayres brief have anything to do with a question raised in the Scanlan brief?

13. Would the regression technique described in the Ayres brief yield the same result for each row of data in Table 1 of the Scanlan brief?

14. Does the Scanlan brief emphasize that the failure of the federal government to understand that reducing the frequency of adverse outcomes tends to increase relative differences in adverse outcome rates, along with the fact that the government monitors the fairness of practices in terms of relative differences in adverse outcomes, has created substantial anomalies in federal law enforcement? Does the Ayres brief say anything about that subject? Does the Ayres brief say anything about the way that the courts or federal agencies quantify the size of a lending disparity?

15. Could the answer to the question of which row of data in Table 1 of the Scanlan brief reflects the stronger forces causing the outcome rates differ be affected in any way by whether disparate impact or disparate treatment is at issue.

16. In a discussion of how to measure the strength of an association reflected by a pair of outcome rates, does one usually discuss statistical significance save to clarify that measures of statistical significance are not measures of association, as in the first sentence of this treatment?

17. Does Scanlan discuss the pertinence of statistical significance to analyses of issues regarding the size of a disparity in Section D (titled "The Role of Statistical Significance

Testing") of the Kansas Law paper to which the Scanlan brief repeatedly refers? Do you disagree with anything Scanlan says there?

18. Assuming that the drafters of the Ayres brief had read the Kansas Law paper, would you regard it as misleading for the Ayres brief to give the attention it does to the failure of the Scanlan brief to discuss statistical significance without responding to the points in the section?

19. Could consideration of statistical significance affect any point in the Scanlan brief?

20. Can anything in the Scanlan brief be read to support that statements in the Ayres brief at 16 that Scanlan maintains "that standard measures of disparate impact disparities depend crucially on the relative frequencies of disadvantaged and advantaged groups in ways that make it impossible to reach conclusions as to even the direction of a policy's disparate impact" or that Scanlan "argues that it is not possible to determine whether a policy favors or disfavors a particular group"?

21. Identify every statement in the Ayres brief that is responsiv to a point in the Scanlan brief.

3. The Expertise of Professor Ayres Regarding Issues Raised in Sections I.A, I.B, and I.C of the Scanlan *Amicus Curiae* Brief

Inasmuch as attorneys often accord great deference to putative experts on statistical matters that the attorneys do not fully understand, and that you and the Lieff Cabraser firm may be inclined to accord such deference to the views of Professor Ayres in appraising your and the firm's obligations to the Court, I set out here a few points on the expertise of Professor Ayres with respect to the issues addressed in Sections I.A, I.B, and I.C of my brief. Some are relevant as well to the issue of the candor reflected in the Ayres brief.

The discussion below is based largely on the review of Professor Ayres' 2005 *Perspective in Biology and Medicine* article "Three Tests for Measuring Unjustified Disparate Impacts in Organ Transplantation: The Problem of 'Included Variable' Bias" (*Perspectives* article) which is cited at page 2 of the Ayres brief, and the complaint in *Adkins v. Morgan Stanley*, a document with which one can expect Professor Ayres to be reasonably familiar.

Notably, the *Perspectives* article's discussion of the disparity ratio (at S73) seems to contrast strikingly with the general theme of, and many statements in, the Ayres brief respecting the manner in which disparate impact issues are actually analyzed (though, to be sure, the Ayres brief never says anything about the manner in which the courts or federal agencies like the Department of Justice and the Department of Housing and Urban Development analyze disparate impacts, but only about the way he maintains that statisticians and econometricians do). The same can also be said of the various references to relative differences in the *Adkins v. Morgan Stanley* complaint.

More pertinent to the expertise issue, however, the article makes it evident that, at least in 2005, Professor Ayres had no understanding whatever of the pattern by which the two relative differences tend to change in opposite direction as the prevalence of an changes – the pattern denominated Heuristic Rule X (or HRX) in my Spring 2006 *Chance* editorial "Can We Actually Measure Health Disparities?" and later termed "Scanlan's rule" by researchers in the United Kingdom.[13] Possibly, Professor Ayres read the *Chance* editorial and possibly grasped its significance.[14] More likely, however, as a practical matter Professor Ayres remained unaware of HRX until it was brought to his attention in my brief.

Prior to receipt of the brief, Professor Ayres probably shared the mistaken view of the Departments of Education and Justice (and practically everyone else in the world) that reducing adverse outcomes tend to reduce relative differences between rates at which advantaged and disadvantaged experience those outcomes, something Professor Ayres ought to now recognize is the exact opposite of reality. Because of the manner in which Professor Ayres characterizes the points in my brief, however, it remains unclear whether he yet understands the pattern or takes any issue with the accuracy of my description of the pattern or my assertions that it remains virtually unknown to all arms of the federal government save for the National Center for Health Statistics. The same holds for my descriptions of the patterns by which absolute differences and odds ratios tend to changes as the frequency of an outcome changes, as discussed in the 2006 *Chance* editorial and countless places since then (save that the title and content of Section C of the Ayres brief would seem to indicate that, unless Professor Ayres is concealing his understanding, he does not yet grasp the implications of those patterns).

I further discuss Professor Ayres's current understanding of the way that reducing an outcome tends to increase relative differences between rates of experiencing it towards the end of this section in connection with the December 25, 2014 *Washington Post* op-ed mentioned in two places above.

The *Perspectives* article also exhibits a failure to understand the problems with measuring any sort of disparity based on a comparison of the proportion a group comprises of persons potentially experiencing an outcome (the pool) and the proportion the group comprises of

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[13] I had also described this pattern in many other articles since 1987, as reflected on the Scanlan's Rule Bibliography page. The most important of the pre-2006 articles were probably Race and Mortality," *Society* (Jan./Feb. 2000) (reprinted in *Current* (Feb. 2000)); "Divining Difference," *Chance* (Fall 1994); "The Perils of Provocative Statistics," *Public Interest* (Winter 1991); and "The 'Feminization of Poverty' is Misunderstood," *Plain Dealer* (Nov. 11, 1987) (reprinted in *Current* (May 1988), and *Annual Editions: Social Problems 1988/89*, Dushkin, 1988). See also "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); "and "An Issue of Numbers," *National Law Journal* (Mar. 5, 1990).

[14] *Chance* is a respected publication of the American Statistical Association with which Professor Ayres was quite familiar when the Spring 2006 issue was released in August 2006. At approximately the same time, the magazine accepted an article by Professor Ayres and his children. See the Yale Law School release of September 14, 2006, which describes *Chance*, presumably on Professor Ayres' advice, as "a leading publications of the American Statistical Association." In a January 21, 2011 post ("The Economics of Tiger Parenting") Professor Ayres indicated that he was extremely pleased with the acceptance.

persons experiencing the outcome – the subject of Section I.B of my brief and one as to which, as noted, the Ayres brief offers not a word. At page S73 of his *Perspectives* article, Professor Ayres discusses disparate impacts in meeting standards for a kidney transplant in terms that whites comprised (a) 52% of the pool but (b) 71.8% of persons with a four or more antigen match and (in note 3 on the same page and referring to a different study) that blacks comprised (c) 39.9% of the pool but (d) 16.2% of persons with a four antigen match. Such comparisons are precisely the subject of Section I.B of my brief. For reasons explained in that section (at 24-25), attempting to address these disparate impacts by reducing the antigen match threshold for consideration for a transplant would reduce the disproportionality reflected by (a) compared with (b) and the disproportionality reflected by (c) compared with (d), whether analyzed in relative or absolute terms. But reducing the threshold would in both cases increase the disproportionality reflected by differences between the proportion the groups comprised of the pool and the proportions they comprised of persons not reaching the antigen match threshold.

The latter comparisons are the type that one observes in such places as Paragraphs 119 and 120 of the *Adkins v. Morgan Stanley* complaint. In any case, the *Perspectives* article makes evident that in 2005 Professor Ayres had no understanding of such issues, and the failure of the Ayres brief to address the points of Section I.B leaves us without information as to whether he understands these issues today.[15]

Professor Ayres' discussion of outcomes tests in the *Perspectives* article (at S78) is also revealing of his failure to understand issues addressed in Section I.C of my brief respecting the invalidity of analyses of discrimination issues that examine information solely on persons accepting some outcome or situation. Professor Ayres' outcomes test involves drawing inferences about decision-making processes by comparing the characteristics of persons from different demographic groups who are selected by the process without consideration of the characteristics of the persons potentially experiencing the outcome at issue. In explaining the outcomes test procedure (at S78) Professor Ayres cites a 1993 *Business Week* op-ed by Gary Becker and Professor Becker's 1992 Nobel Laureate lecture (published in 1993) where Professor Becker maintained that if there existed credit discrimination against minority borrowers, minorities should have lower default rates. (Professor Ayres later questions an aspect of Professor Becker's reasoning (at S80), but, to my mind, only as to a nuances not pertinent here.)

Analyses such as those described by Professor Becker or Professor Ayres might be valid if among persons seeking the outcome the groups being compared do not differ in characteristics related to securing the outcome. But, as I explained with respect to Table IV (at 60) of "Illusions of Job Segregation," *Public Interest* (Fall 1988), such analyses are not probative that one group is disfavored when the groups seeking the outcome differ in average characteristics (save in circumstances where the group with the weaker average qualifications among persons seeking

[15] The failure of the Ayres brief to acknowledge the questions my brief raises about whether relaxing a standard increases of reduces a disparate impact – or, indeed, that such questions are a key subject of my brief – also leaves us without information as to what Professor Ayres' view might be on the subject with regard to the antigen match or the disparate impact issues addressed in Section I.A.3 (at 20-23) of my brief or the implications of such issues (and the failure of HUD to understand them) with respect to the dilemma facing entities attempting to comply with HUD's discriminatory effects rule (as discussed in my brief at 32-33).

the outcome have stronger average qualifications among persons securing the outcome). See also "The Perils of Provocative Statistics," *Public Interest* (Winter 1991) at 13. I also explained this misconception specifically with respect to the Becker argument in "Perils of Using Statistics to Show Presence or Absence of Loan Bias," *American Banker* (Jan. 3, 1997), and "Both Sides Misuse Data in the Credit Discrimination Debate," *American Banker* (July 22, 1998). The misconception is also the subject of Section 4 of my Lending Disparities page.

Further, having been confronted with the two *Public Interest* articles and their bearing on his arguments in the *Business Week* piece, Professor Becker advised me (in a letter dated May 3, 1993):

> I fully agree that when considering two groups applying for loans, and if the minorities have on the average worse characteristics than the majority, then without discrimination, one would expect accepted members of the disadvantaged group to have worse characteristics.

Professor Becker's acknowledgment does not exactly address the point of Table IV of "Illusions of Job Segregation" that, where one group has weaker selection-related qualifications among persons seeking an outcome, such groups will commonly have weaker average selection-related qualifications among persons securing the outcome, even when the group has been discriminated against. But Professor Becker's acknowledgment does reflect an understanding that one needs information on the characteristics of persons in the pool to draw inferences based on characteristics of persons experiencing an outcome.[16]

In any case, in 2005 Professor Ayres did not appear to understand this particular problem in drawing inferences based on analyses of information solely on persons who were offered and accepted some outcome or situation. Whether he now understand the problems of such analyses with respect to the lending claims in *Adkins v. Morgan Stanley*, such as are articulated in Section I.C of my brief, remains unknown. For, as with Section I.B, Professor Ayres chose not to address in his brief the points in Section I.C of my brief.

Turning to aspects of the *Adkins v. Morgan Stanley* complaint apart from the fact that the arguments in Section I.C could require dismissal of the case, I noted above the bearing of the comparisons in Paragraphs 119 and 120 on Professor Ayres's understanding of the issues raised in Section I.B of my brief (as well as the way the references to relative differences in the complaint bear on Professor Ayres's candor respecting how disparate impact issues are analyzed). I now address certain aspects of the complaint as they bear on Professor Ayres' understanding of the issues address in Section I.A of my brief. I begin with a matter where revision of the complaint would seem to be required (treating in note 21 *infra* a second situation where revision may also be warranted).

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[16] In his letter, Professor Becker did defend certain aspects of his *Business Week* article based on things that might happen. It is unnecessary to address here my agreement or disagreement with the reasons Professor Becker offered.

The matter requiring revision, though involving a single sentence in the complaint, involves a failure of understanding that I have addressed in scores of places as a reflection of the fuzzy thinking of putative statistical experts in a wide range of fields. It also involves a study I have previously written about. In a sense, I have previously written about the sentence in question.

Paragraph 102 of the *Adkins v. Morgan Stanley* complaint cites a 2011 study by Deborah Gruenstein Bocian, *et al.* (*Lost Ground, 2011: Disparities in Mortgage Lending and Foreclosures, Center for Responsible Lending*) about foreclosure disparities, quoting from the study that "'the disparities were especially pronounced for borrowers with higher credit scores.'" The emphasis reflects a fundamental misunderstanding of statistics (just as would an emphasis on the less pronounced disparities in home retention rates among borrowers with higher credit scores that one is virtually certain to find if one were to bother to look).

Emphasis on comparatively large disparities among well-off subgroups, and the inferences drawn on the basis of such comparatively large disparities, almost invariably involve relative differences in adverse outcomes. And, without an exception that has yet come to my attention, those placing the emphasis and drawing the inferences have failed to understand that relative differences in adverse outcomes tend to be comparatively large, while relative differences in the corresponding favorable outcomes tend to be comparatively small, within comparatively well-off subgroups, simply because adverse outcomes tend to less common among such subgroups than among other subgroups.

I have discussed this issue in a great many places for a very long time, often specifically with regard to mistaken perceptions about large relative racial differences in adverse borrower outcomes among higher-income or more creditworthy loan applicants. See, *e.g.*, my "Race and Mortality," *Societ*y (Jan./Feb. 2000) (at 3-5 of the website version, including (at 5) regarding lending disparities); the 2006 *Chance* editorial mentioned above (at 50, regarding several matters); "Race and Mortality Revisited" (mentioned above) (especially at 340 regarding the Whitehall Studies, and at 340-41 regarding lending disparities studies; the Kansas Law paper (especially at 7); "Statistical Quirks Confound Lending Bias Claims," *American Banker* (Aug. 14, 2012) (regarding the complaint in *United States v. Wells Fargo Bank*); and "It's easy to misunderstand gaps and mistake good fortune for a crisis," *Minneapolis Star Tribune* (Feb. 8, 2014). See also my Whitehall Studies and Disparities – High Income pages, and slide 23 of my October 2012 applied statistics workshop at Harvard's Institute for Quantitative Social Science ("The Mismeasure of Group Differences in the Law and the Social and Medical Science").

Counting comments on articles in medical and health policy journals and conference presentations – one of which, "The Misinterpretation of Health Inequalities in Nordic Countries at the 5th Nordic Health Promotion Research Conference (2006), which is discussed in the *Star Tribune* commentary, was principally focused on this issue as it pertained to mistaken

perceptions about comparatively large relative socioeconomic differences in mortality in Norway and Sweden[17] – I may have treated this issue in more than fifty places.[18]

"The Perverse Enforcement of Fair Lending Laws," *Mortgage Banking* (May 2014), cited in my brief at 30, in fact has a box (at 92) highlighting the issue. The article explains the matter with reference to its Figure 1, which, as it bears on this matter, is essentially the same as Table 1 of my brief. That is, the low cutoff row reflects the better-off (*e.g.*, high credit score) subgroup and the high cutoff row reflects the poorer-off (*e.g.*, low credit score) subgroup. The former shows the larger rate ratio (with associated larger relative difference) for the adverse outcome but the smaller rate ratio for the favorable outcome.

My Foreclosure Disparities page (last updated December 22, 2013) discusses the issue with respect to foreclosure disparities, specifically discussing the Bocian study cited in the *Adkins v. Morgan Stanley* complaint. The page noted that the Bocian study "gave much attention to the large racial disparities among higher-income groups, but without recognition of the statistical forces leading toward large relative difference in adverse outcomes (though small relative differences in favorable outcomes) where adverse outcomes are less common."[19]

It is a fair assumption that Professor Ayres had no understanding of this issue prior to reading my brief and not everyone would understand this issue even while carefully reading my brief, though, as indicated, the point is made well enough in materials I reference in the brief, including those that I highlight at page 5 of the brief.[20] In any case, Lieff Cabraser ought now to

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[17] An article by Huijts & Eikemo in a 2009 issue of the *European Journal of Public Health* ("Causality, social selectivity or artefacts? Why socioeconomic inequalities in health are not smallest in the Nordic countries") is based on my reference to this issue in the 2006 *Chance* editorial. See my January 25, 2009 comment on the article.

[18] I have been discussing the reasons to expect comparatively large relative differences in adverse outcome in comparatively well-off subgroups or areas since 1987. See the discussion of the greater disproportionate concentration of poverty among white female-headed families in Massachusetts than among black female-headed families in Mississippi in "The 'Feminization of Poverty' is Misunderstood," *Plain Dealer* (Nov. 11, 1987), and the discussion of the larger relative racial difference in poverty rates among married-couple families than female-headed families in "The Perils of Provocative Statistics," *Public Interest* (Winter 1991). I first pointed out the pattern whereby relative racial differences in mortgage rejection rates were greater among higher- than lower-income groups, using the first available Home Mortgage Disclosure Act data, in "Bias Data Can Make the Good Look Bad," *American Banker* (Apr. 27, 1992). I did so merely as an illustration of the pattern I would eventually term HRX. I did not then realize that comparatively large relative differences in mortgage rejection rates among higher-income borrowers would soon be mistakenly deemed highly significant by putative experts in data analysis and would remain so two decades later.

[19] I brought this interpretive issue to the attention of Dr. Bocian and her colleagues by email of December 5, 2012.

[20] Most treatments of my work on the two relative differences do not recognize (or at least do not get to) this point. A recent exception is Lambert and Subramanian, "'Scanlan's Rule': Two apparent conundrums and how we might address them," Working Paper 84/2014, Madras School of Economics (2014).

fully understand the issue, and, understanding it, has an obligation to remove the misleading language from the complaint. [21]

Paragraph 32 of the *Adkins v. Morgan Stanley* complaint faults lenders for trying to maximize the proportion of loans that were subprime, while paragraph 102 states that a study had shown that borrowers of color were "more than 30% more likely to receive" higher interest rate loans than whites. As should be evident to a reader of my brief, especially page 11, reducing the proportion of loans that were subprime would tend to increase, not reduce, the 30% figure. I also make the point with respect to the ways the complaints in *United States v. Countywide* and *United States v. Wells Fargo* encourage lenders to reduce the proportion of total loans that were subprime in "Race and Mortality Revisited," *Society* (July/Aug. 2014), cited throughout my brief; "The Perverse Enforcement of Fair Lending Laws," Mortgage Banking (May 2014), cited at page 30 of my brief; and "Misunderstanding of Statistics Leads to Misguided Law Enforcement Policies," *Amstat News* (Dec. 2012), cited in note 9 of my brief. See also "'Disparate Impact': Regulators Need a Lesson in Statistics" *American Banker* (June 5, 2012).

I suggest that Professor Ayres was entirely unaware of this tendency prior to reading my brief. And his failure discuss them, in conjunction with his suggestion that no one pays any attention to relative differences in analyzing disparate impact issues, leaves us uncertain whether he understands them now.

Paragraph 94 of the *Adkins v. Morgan Stanley* complaint notes that foreclosure rates were "astronomically high" and paragraph 96 states that the rate of foreclosure among African American borrowers was 28.7% greater than the rate among white borrowers. As specifically discussed at page 12 of my brief – and as may be implied by things I have said in several hundred places – generally reducing foreclosure rates will tend to increase, not reduce, the 28.7% figure. The concluding sentence of the preceding paragraph in this letter would seem to apply here as well.

Finally, as discussed above, on December 25, 2014, Professor Ayres co-authored with Yale Law Professor Daniel Markovits an op-ed in the *Washington Post*, "Ending excessive police force starts with new rules of engagement." The item links to a *Mother Jones* article that notes such things as that "black people were about four times as likely to die in custody or while being arrested [as] whites" and that "a black person was on average 4.2 times as likely to get shot and killed by a cop [as] a white person." The Ayres/Markovits piece suggests that altering policing practices in a way that would generally reduce forceful interactions between the police and the public will tend to reduce such disparities. The discussion shows a continuing failure to

[21] On a separate note, Paragraph 103 of the *Adkins v. Morgan Stanley* complaint also stated with respect to the Bocian study: "These high disparities persisted even after controlling for credit score." The Foreclosure Disparities page referenced above also discusses that what the Bocian study regarded as controlling for income actually involved identifying disparities within broad income categories, and on the page I assert that "no one can reasonably maintain that, even solely as to income, minorities and white[s] within the categories are comparable." I make the same point respecting supposed controls for credit score in the August 14, 2012 *American Banker* item. Whether or not you agree with the assertion, I suggest that you clarify whether the Bocian study has in fact controlled for credit scores in a way that Professor Ayres would regard as controlling for credit scores and determine whether that aspect of the complaint should also be corrected.

recognize that reductions in adverse outcomes typically will be accompanied by increased relative differences in adverse outcome and that one cannot soundly interpret data without understanding that pattern and related patterns by which measures tend to be affected by the frequency of an outcome.

Putting aside the seeming failure of Professor Ayres to learn anything about patterns by which measures tend be affected by the frequency of an outcome in the course of responding to my brief, the above discussion should not be read to suggest that Professor Ayres's statistical expertise is below the norm for statisticians and other putative quantitative experts. As is made evident in "Race and Mortality Revisited" and scores of other places, these failures of understanding are widespread, if not nearly universal, at the leading universities and research institutions around the world. But that Professor Ayres' understanding is not below the norm, and even that his understanding might be far above the norm, would not be reason to accord his views great deference in the face of evident failures of understanding with respect to the interpretation of the specific issues raised in my brief. Thus, I suggest that you accord any view of Professor Ayres that the brief is not materially misleading little deference as you consider your and the Lieff Cabraser firm's obligations to withdraw the Ayres brief if it is likely to mislead the Court.

B. Reasons for Amending the Statement of Interest of *Amicus Curiae* in the Event the Ayres Brief Is Not Withdrawn

The production of the Ayres brief is unusual in the following respect. Professor Ayres appears to have retained Lieff Cabraser to prepare a brief for him or to assist him in preparing a brief. As noted, it is not clear whether Professor Ayres is acting as an attorney in the matter. But the firm Professor Ayres has retained also has retained Professor Ayres with respect to a matter on which one assumes Professor Ayres is earning substantial fees and one, moreover, to which issues raised in the brief to which the Ayres brief purports to respond are highly pertinent.

The firm has an obvious interest in the question of whether disparate impact is cognizable under the Fair Housing Act given the potential bearing of such ruling on the case of *Adkins v. Morgan Stanley* and such like cases as the firm may now have or may have in the future. In that regard, I note that the docket in *Adkins v. Morgan Stanley* indicates that defendant sought a stay while the *Mount Holly* case was pending, though apparently did so unsuccessfully.

Further, as noted, Section I.C of my brief makes arguments about the invalidity of analyses that examine information solely on persons who accepted some outcome or situation that, if accepted by Court, could require dismissal of all claims in *Adkins v. Morgan Stanley* and the compensation claims in *Chen-Oster v. Goldman Sachs*, as well as preclude the pursuit of job segregation/assignment discrimination claims like those on which the Lieff Cabraser firm experienced such success in *Butler v. Home Depot.* Yet, whatever views Professor Ayres might have on the validity of the arguments in that section, he declined to share them with the Court.

The arguments in Section I.C of my brief go to the inability of certain types of analyses to determine whether any difference in outcomes exists at all. The arguments in Section I.B go to

problems in quantifying the strength of the forces underlying an observed difference, either for determining whether one set of procedures has a less discriminatory effect than another or for appraising the likelihood that unaccounted for characteristics explain the disparity. Many significant cases have been subject to these problems. These include *EEOC v. Sears, Roebuck and Co.*, 839 F.2d. 302 (7th Cir. 1988), where the issue was in fact addressed at some length, if not cast precisely in terms of Section I.B,[22] as well as the Supreme Court cases cited at page 23 n.15 of my brief. Very likely the feeder pool analyses in *Dukes v. Wal-Mart*, 603 F.3d 571 (9th Cir. 2010), were subject to these issues, though the reporting of regression results make it difficult to figure that out.

In any case, Professor Aryes, who declined to advise the Court even as to whether his regression technique would yield the same result for each row of Table 1 (another matter that by itself should cause you to withdraw the brief), also declined to advise the Court as to any views he might have as to whether regression results, robust or otherwise, could address the lack of information problems discussed in Sections I.B and I.C. Professor Ayres, and Lieff Cabraser, instead chose to act as if Sections I.B and I.C did not exist.

When a party (or *amicus curiae*) wishes certain arguments made in the brief of another party (or *amicus curiae*) to go unaddressed – whether because the party (or *amicus curiae*) has no sound response or for any other reason – one approach to accomplishing that end is to attempt to undermine the other brief by disparaging the arguments that one purports to be addressing, while saying nothing at all about the arguments that one wishes the Court not to consider. But a party is not representing that it actually believes in any argument it makes. An *amicus curiae*, at least in the case of an individual representing that his interest is in edifying the Court, is representing that he believes everything he says and that he is no manner attempting to mislead the Court. In any case, the failure to address the arguments in Sections I.B. and I.C (especially the latter) calls for an explanation.

Further, Lieff Cabraser has an interest not only in causing arguments in my brief not to be considered by the Court, but in generally discrediting the substantial body of work I have created maintaining that the types of discrimination suits addressed in Section I.C are statistically unsound, or even nonsensical, and often suggesting that such cases are inimical to the interests of minorities and women by discouraging their hire into jobs they wanted or were willing to accept but were deemed to be less desirable than other jobs. That body of work began with "Illusions of Job Segregation," *Public Interest (*Fall 1988), [23] and "Are Bias Statistics Nonsense?" *Legal Times* (Apr. 17, 1989), even before the decision in *Wards Cove Packing Co. v. Atonio*, 490 U.S. 642, 653-54 (1989), seemed to recognize the fallacy of analyses that looked only at persons who accepted some position or outcome, while also recognizing that acceptance of such analyses

[22] I was counsel for the plaintiff in the case.

[23] "Illusions of Job Segregation" is among eight suggested further readings in the entry on Discrimination in the *Concise Encyclopedia of Economics.* Chapter 5 of the 2002 book *It Ain't Necessarily So: How the Media Remake Our Picture of Reality*, by David Murray, Joel Schwartz, and S. Robert Lichter, draws extensively on the article.

would create a situation where an employer could avoid liability by reducing the numbers of hires of disadvantaged groups into jobs deemed less desirable.[24]

After the ruling in favor of plaintiffs in *Stender v. Lucky Stores*, 803 F. Supp. 259 (N.D. Cal. 1992) – a key precursor to *Butler v. Home Depot* and like cases with claims of discriminatory assignment – the defendant relied on my work, including "Unlucky Stores: Are They All Guilty of Discrimination?" *San Francisco Daily Journal* (Jan. 29, 1993), to try and secure an interlocutory appeal. That prompted one of the plaintiffs' counsel to complain to my then-employer, the Equal Employment Opportunity Commission.

Butler v. Home Depot was a joint undertaking by counsel for plaintiffs in the *Lucky Stores* case and counsel from Lieff Cabraser, including attorneys representing plaintiffs in *Adkins v. Morgan Stanley* and *Chen-Oster v. Goldman Sachs*. Given that "Unlucky Stores" article maintained that assignment claims were foreclosed by the *Wards Cove* decision, one would assume my work was discussed prior to bringing the case. One must assume also that Lieff Cabraser gave some attention to the 1995 *National Law Journal* article cited at page 29 of my brief, given that it mentions *Butler v. Home Depot* in the first paragraph and states in its penultimate sentence: "In consequence of the Civil Rights Act of 1991, however, future cases – *Butler v. Home Depot Inc.* among them – are likely to be tried before juries, in which case the superficial appeal of such analyses is likely to have even greater sway."

I have continued to address the problems in analyses of discrimination issues that examine information solely on persons who accepted some outcome or situation,[25] though lately with greater attention to claims that persons who accepted loan packages were disproportionately assigned to subprime status or generally paid higher interest rates (as in "Fair Lending Studies Paint Incomplete Picture," *American Banker* (April 24, 2013), Section F of the Kansas Law paper, and "The Perverse Enforcement of Fair Lending Laws," *Mortgage Banking* (May 2014)) and claims of discrimination in compensation (as in Section F of the Kansas Law paper). Section I.C of my brief expresses these arguments in the potentially most important forum.

That only a few have recognized the significance of those arguments (see note 23 *supra*) does not undermine them any more than the fact that only a handful of researchers yet understand that reducing the frequency of an outcome tends to increase, not decrease, relative differences between rates of experiencing the outcome makes the existence of such tendency in any sense debatable. Only sound responses can actually undermine the arguments.

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[24] Respecting other ways dubious litigation respecting post-hire treatment of minorities or women may work to the disadvantage of such groups, see my "Double-Edged Civil Rights," *National Law Journal* (Nov. 5, 1990).

[25] See Statistical Proof of Discrimination," at 838-40, and "*Wards Cove Packing Co. v. Atonio*, 490 U.S. 642 (1989)," at 930-32, in *Affirmative Action, An Encyclopedia* (James A. Beckman ed.) Greenwood Press, 2004, "Women Employees' Case Against Publix, Built on Wrong Data, Doesn't Compute," *Miami Daily Business Review* (Aug. 2, 1996).

If Lieff Cabraser has a sound response to these arguments, such as it or Professor Ayres might have thought to include in a discussion of Section I.C of the brief but ultimately chose not to, it has little reason to be concerned about this body of work. But if it does not, it has an interest in causing my work on statistical issues to be perceived in the worst possible light.

For all these reasons, if the brief is not withdrawn, the Statement of Interest of *Amicus Curiae* should be amended to reflect all financial interests of Lieff Cabraser in the Court's treatment of the issues raised in my brief. Such amendment should include a statement as to the pertinence of the arguments in Section I.C to pending cases, and a statement as to why the Ayres brief does not respond to arguments in Section I.B and I.C.

Further, note 1 of the Ayres brief (at 1) states that "the cost of the brief was paid entirely by *amicus* and/or his counsel." I assume that this language reflects a more or less standard effort to comply with Supreme Court Rule 37.6 that a footnote on the first page of an *amicus curiae* brief "identify every person or entity, other than the *amicus curiae*, its members, or its counsel, who made such a monetary contribution to the preparation or submission of the brief."

In the circumstances of this case, however, I suggest that it is appropriate for the statement to indicate whether any of the costs were borne by the firm, and, if so, what proportion of the costs, as well as whether the firm paid Professor Ayres anything for his work on the brief on which Lieff Cabraser was representing him.

In addition, inasmuch as the case is pertinent to other firm matters, the statement should indicate precisely how time and expenses incurred by the firm were billed, including providing information respecting whether any expenses relating to the production of the brief were billed to any matter other than the representation of Professor Ayres.

I note that to bill to the *Adkins v. Morgan Stanley* case or any other case expenses associated with securing from Professor Ayres a view as to how the arguments in my brief would affect such case would be entirely appropriate and in no manner inconsistent with the statement in note 1 of the Ayres brief. But once any discussions turned to the production of the brief, if any time or expenses associated with such discussions and production were billed to such cases, that would render the statement in note 1 incorrect. That holds irrespective of the fact that the firm would not currently be compensated for any billings associated with a putative class action like *Adkins v. Morgan Stanley* and might never be compensated should the case prove unsuccessful.

If any such billings did occur, such occurrence would seem to require the withdrawal of the brief, and advice to the Court that the statement in note 1 was incorrect. In any case, the amended Statement of Interest of *Amicus Curiae* should provide sufficient information for the Court to make that determination as well as appreciate the extent to which any client to Lieff Cabraser is bearing the cost of the Ayres brief.

Finally, even if you should withdraw the brief for the reasons discussed in Section A of this letter, it would be necessary for you advise the Court of any way in which the referenced statement in note 1 is incorrect.

Sincerely,

/s/ James P. Scanlan

James P. Scanlan

cc: Counsel for Petitioner and Respondents