Does Affirmative Action Reduce the Number of Black Lawyers?

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Preliminary Draft

Abstract: Richard Sander has highlighted that the law school grades and bar passage rates of African Americans are substantially lower than those of whites. Sander attributes this shortfall to affirmative action. He estimates that U.S. law schools would produce more black lawyers if affirmative action preferences in admission were eliminated. Our analysis raises several methodological challenges to Sander's approach and our findings suggest that the elimination of affirmative action would reduce the number of black lawyers. However, we find that attending law school is a very risky proposition for many black law students. In the LSAC data, 42.6% of blacks entering law school have less then or equal to a 50% chance of becoming lawyers (relative to 0.3% of entering white students).

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Introduction

Richard Sander's study of affirmative action at U.S. law schools highlights a real and serious problem: the average black law student's grades are jaw-droppingly low.[1] With the exception of traditionally black law schools (where blacks still make up 43.8% of the student body), the median black law school grade point average is at the 6.7 percentile of white law students.[2] This means that only 6.7% of whites have lower grades than 50% of blacks. One finds similar result if look at the other end of the distribution – only 7.5% of blacks have grades that are higher than the white median.

Given these low grades, it should not be surprising that black students are less likely to graduate from law school and less likely to pass the bar. In fact, in the LSAC data,[3] 83.2% of whites graduated and passed the bar within 5 years of entering law school, while only 57.5% of black entering law schools became lawyers. Sander has made an important contribution by simply bringing national attention to the racial disparities in law school grades and bar passage rates. Disparities of this magnitude command our attention.

But Sander has gone further and suggested that affirmative action is the dominant cause of the racial disparity in law school grades:

> [V]irtually all of the black-white gap . . . seems attributable to preferences: virtually none of it seems attributable to race or correlates of race (such as income).[4]

His core idea, based on the "academic mismatch hypothesis," is compelling in its simplicity: because blacks tend to have systematically lower entering credentials than the median (white) student, black students learn less than they might have if they had attended schools at which they were better matched. Because African Americans learn less, they should be expected to earn lower law school grades and to graduate and pass the bar at lower rates.

Sander estimates that affirmative action reduces the number of black lawyers. While affirmative action causes 14.1% more African Americans to enter law school, he estimates that the lower graduation rates and bar passage rates of mismatched black

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[1] This point has been observed previously by a number of scholars. See e.g., Gita Wilder, The Road to Law School and Beyond: Examining Challenges to Racial and Ethnic Diversity in the Legal Profession (LSAC Research Report, 02-01 (August 2003), especially pages 21-26; Timothy Clydesdale, A Forked River Runs Through the Law School, October 2004 issue of Law and Social Inquiry; David Chambers, Get Title, 52 Buffalo L. Rev. 569-576 (March 2004). Ironically, we suspect that this observation would not have gotten the broad attention it deserves, had Sander not included his provocative and unproven assertion that the elimination of affirmative action would increase the number of black lawyers.

2 See also Richard Sander, A Systemic Analysis of Affirmative Action in American Law Schools, 57 Stan. L. Rev. 367 (2004) (see Table 5.3).

3 Like Sander, we rely almost exclusively on the LSAC data of 27,478 law students collected in 1991 from 160 U.S. law schools. Linda F. Wightman, LSAC National Longitudinal Bar Passage Study (Law School Admissions Council Research Report Series 1998). Unless otherwise indicated all empiricism in this article is based on this data. Our analysis relies almost exclusively upon the dataset that Sander generously made available to us. Using his methodology, we were able to replicate his core regressions, but we have not gone behind the data set to test whether the data are themselves reliable or representative.

4 Sander, at 479.

students on net reduces the number of black lawyers by 7.9% (relative to the number that would be produced in a system without affirmative action).[5]

While the mismatch hypothesis is plausible, this response refutes the idea that affirmative action has reduced the number of black lawyers. We find no persuasive evidence that current levels of affirmative action has reduced the probability that black law students will become lawyers. We estimate that the elimination of affirmative action would reduce the number of lawyers. Indeed, some of our results suggest an equally plausible reverse mismatch effect, where the probability of black law students becoming lawyers would be maximized under a system involving more affirmative action than present. We emphasize, however, that we do not view these estimates as definitive, as they are derived within the simple tier-index score framework offered by Sander. We put them forward to underscore our conclusion that, even within his framework, there is not persuasive evidence to indicate that affirmative action is responsible for lowering the number of African-American attorneys

However, consonant with Sander's analysis, we do find that attending law school is a very risky proposition for many black law students. In the LSAC data, 42.6% of blacks entering law school had less then a 50% chance of becoming lawyers within 5 years of starting law school. (Virtually no entering white students – 0.3% – are in this high risk category.) While Sander argues that most of this risk is attributable to the mismatching affect of affirmative action, we estimate that affirmative action on net reduces (but by no means eliminates) the risk for black law students. Somewhat consonant with Sander's analysis, we consider whether there may be a group of black students who in a better equilibrium would not attend law school. But while Sander envisions a world with reduced law school demand for black law students occasioned by the elimination of affirmative action, we consider a world with reduced black law student supply occasioned by better information about the true risk of the undertaking.

This response is organized into three sections. The first estimates the impact of various degrees of affirmative action on the expected number of black lawyers. The second explores the mismatch hypothesis in detail. And the third identifies the set of students for whom becoming a lawyer is less likely than not.

I. Estimating the Impact of Affirmative Action on the Number of Black Lawyers

Sander uses regression analysis to try to establish a core proposition: The probability at matriculation that a student will become a lawyer is dominantly determined by the student's entering credentials (LSAT and undergraduate grade point average) relative to other students at her school. This proposition derives from two regressions suggesting that: 1) a student's relative entering credentials determine the student's law school grades;[6] and 2) a student's entering credentials and law school grades determine the probability that the student will pass the bar.[7] But since the student's relative entering credentials determine her law school grades, the probability of passing the bar – especially judged at the moment of admissions – is, for Sander, determined by her relative entering credentials.

5 Sander, at 473 (Table 8.2).
6 See Sander, at 428 (Table 5.2).
7 See Sander, at 444 (Table 6.1).

An even more audacious claim of Sander is that, after controlling for a student's relative entering credentials, the probability at the moment of entering law school that a student will become a lawyer is *not* importantly determined by the student's race or *any* other factors.[8] Sander's argument seems to be that if you know a student's LSAT and undergraduate GPA relative to those of her classmates at the moment she enters law schools, you can make the best prediction possible about her chances of ultimately graduating and becoming a lawyer. For the most part, our response will accept Sander's claim that other factors do not influence the probability of becoming a lawyer (we are, however, extremely skeptical that the claim).[9]

But, importantly, Sander does not use these regressions to estimate his bottom line figure that eliminating affirmative action would reduce the number of black lawyers by 7.9%.[10] Instead, he merely groups existing blacks from the LSAC data set into 26 distinct ranges of entering credentials and then calculates how many black lawyers there would be if these black law students became lawyers at the same rate that whites with the same entering credentials became lawyers. Thus, for example, there were 106 black students in the LSAC data that had entering credential indexes with values between 620 to 640.[11] And Sander assumes that in a world without affirmative action, 75.6% of these black students would become lawyers – because this is the same rate at which white law students with these entering credentials became lawyers.

This approach is consistent with Sander's core claims outlined above. In a world without affirmative actions, black students would have the same entering credentials as their white peers at particular schools. Since relative entering credentials are the sole determinants of the probability that a student will become a lawyer, Sander doesn't need to control for any other fact. But if other factors (including a student's own race or family income or the race of her classmates[12]) determine the probability that a student

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8 Sander's Table 5.2 is a lynch-pin in his argument. See Sander, at 428. That Table reports a regression based on a much smaller database – the "1995 National Survey Data" – which Sander collected. This survey – unlike the LSAC data – allowed Sander to calculate the relative LSAT and GPA rankings of individual students at specific schools. School-specific rankings of students were impossible to calculate in the LSAC data because there are no school-specific indicators, only indications of what tier school a student attended.

9 For example, even the undergraduate GPA measure does not control for the quality of the institution or the major within the institution. Many law schools (and researchers) adjust for the quality of undergraduate GPA – for example, by looking at the median LSAT of applicants from that undergraduate institution. For example an empirical analysis of Pennsylvania article discusses the school's use of the Lonsdorf Index:.

> The Lonsdorf Index represents a formula used by the University of Pennsylvania Law School for admissions purposes during the period of time covered by our data, weighing LSAT score, median LSAT score at undergraduate institution, and undergraduate grade point average. The index is computed by a formula of 0.05399 (LSAT) + 0.04427 (MLSAT) + 0.0124 (RIC), where LSAT = applicant's LSAT score; MLSAT = mean LSAT from applicant's college; and RIC = applicant's rank in undergraduate class.

Lani Guinier, Michelle Fine, Jane Balin, Ann Bartow, and Deborah Lee Satchel, Becoming Gentlemen: Women's Experiences at One Ivy League Law School, 143 U. Pa. L. Rev. 1 (1994).

10 This figure is not based on a statistical procedure: There are no standard errors of the estimate, no confidence intervals, no measures whether the 7.9% estimate is statistically different than 0%.

11 Sander uses an index that gives 40% weight to the undergraduate GPA and 60% weight to the LSAT, "with both UGPA and LSAT normalized to a thousand-point scale." Sander at 393.

12 Somewhat amazingly, Sander never tests for the possibility of diversity benefits from affirmative benefits. A central claim of the diversity hypothesis is that both whites and blacks might learn better in educational environments that have a critical mass of minority students. But Sander's regressions never consider the

will become a lawyer, then this approach would not be accurate because it fails to account for any factor other than the student's index score.[13]

A. The "White Median Tier"

A casual reader of Sander's article might think that black and white students with the same index score would almost never attend law schools in the same tier: Almost all whites within one of these narrow index ranges would go law schools in one quality tier and blacks with the same credentials would almost always go to law schools in a higher ranked quality tier. But as shown in Figure 1, it turns out that there is a substantial overlap in the law school tiers attended by blacks and whites *with the same entering credentials*.[14]

[Insert Figure 1 about here]

Figure 1 shows the proportion of white and black students with the same entering credentials (using Sander's same 20 point index ranges) that go to particular law school tiers relative to the tier attended by the median white student with that index score.[15] One can see that there is a substantial overlap in the quality tiers of law schools attended by white and black law students. Forty-four percent of whites attend a school in the white median tier, but 26% of black students with the same entering credentials attend a school in this same tier. The figure shows that blacks are more likely than whites to attend quality tiers that are above the white median tier. But there still is substantial overlap: 31% of blacks attend a school one tier higher than the white median tier, but 19% of whites with the same entering credentials attend this tier. The substantial and overlapping spread of tiers attended by whites and blacks with the same credentials suggests either that law schools admit students on the basis of more than just the entering index or that there are other constraints on the part of the schools (e.g., legacy admissions), or students (e.g., financial, geographic, lack of information, motivation) which cause white and black students to attend the same school notwithstanding affirmative action.

Figure 1 also shows that when we compare black and white students with the same entering credentials, blacks are substantially more likely to go to a quality tier that is 2 tiers *below* the white median tier. 15% of blacks go to a school two tiers below the white median, while only 3% of whites go to this tier. This result is starkly at odds with the notion that affirmative action drives blacks to law schools where they are

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impact of one student's race on the success of another student. His analysis might apply equally to a "distance learning" setting in which isolated students watch a webcast.

[13] If black students were more likely than white students to have a characteristic (say low family income) that was negatively correlated with ultimately becoming a lawyer, then predicting that blacks would become lawyers at the same rate as whites would likely overstate the number of black lawyers.

[14] We retained the tier numbering found in Sander's dataset – with elite schools having a tier number of 6 and historically black schools having a tier number of 1.

15 This table was constructed by first identifying the median tier attended by white students in each twenty point index range. We will refer to this tier as the "white median tier." Then for each index range, we calculated the number of whites and the number of blacks going to the white median tier; the number of whites and blacks going to one tier above the white median tier; etc. We then aggregated these numbers across tier to find what proportion of whites and blacks went to the white median tier, one tier above the white median tier, etc. There is substantial overlap between the white median tier and other measures of central tendency. The white median tier is the same as the white modal tier in 81.5% of the index ranges, and the white median tier is the same as the average white tier (rounded to an integer) 92.6% of the time.

systematically overmatched. But this result is driven by the existence of the tier 1 historically black law schools that attract a number of black students with entering credentials for which the median white student attends tier 3 schools. It turns out that historically black schools will play an important role in our analysis below.

B. The Impact of Eliminating Affirmative Action

Recall that Sander's estimate of a 7.9% decline in African-American attorneys was based on a simple calculation of how many more black lawyers there would be if black law students became lawyers at the same rate as white students in that index range. Sander's idea was that in a world without affirmative action blacks would start going to lower quality law schools and would consequently have a higher chance of becoming lawyers.

But it is possible to look directly at how blacks do when they go to the school where most whites with the same entering credentials go. Thus the white median tier construct can be employed to provide an alternative analysis of the likely impact of various forms of affirmative action on the number of black lawyers. This analysis improves on Sander's estimate about the impact of eliminating affirmative action in two ways. Sander's approach ignored the tier dispersions of whites within particular index ranges. Sander implicitly assumed that without affirmative action, black students would go to the same tier schools as whites with the same entering credentials. But Figure 1 showed that whites with similar credentials themselves go to a variety of different quality tiers. In a world without affirmative action, there is no reason to expect that blacks would attend the same distribution of schools as white students. Black students are less likely to benefit from legacy preferences and are more likely to be financially constrained. Accordingly, we estimate the impact of sending blacks to the quality tier where the median white student went for each particular index range. The crucial idea is that we calculated the probability of becoming a lawyer for the actual blacks who already have been attending the white median tier for each index range and attributed this probability to other blacks who would be forced by the elimination of affirmative action to attend schools in this white median tier.

When we calculate the impact of the elimination of affirmative action in this way – by sending all blacks to the white median tier – we find that instead of increasing the number of black attorneys by 7.9%, the elimination of affirmative action would decrease the number of black lawyers by 12.7%.[16] As shown in Table 1,[17] the elimination of

[16] We follow Sander's convention for these calculations by dropping the bottom 14% of students from the analysis.

17 To create this table we first calculated the probability of becoming a lawyer for black students going to the white median tier for each index range, then we multiplied the number of black students in that index range attending schools at or above the white median tier by that probability. We did not change the probability of becoming a lawyer for students below the white median tier, assuming that the elimination of affirmative action would not impact them. The total lawyers in this scenario is merely a sum of the number of black students at or above the white median tier for each index range times the probability of a black student becoming a lawyer at the white median tier for that index range plus a sum of the number of black students in each tier below the white median tier times their probability of becoming a lawyer at that particular tier and index range. This calculation resulted in 5.8% fewer lawyers than resulted from the status quo. When we drop the bottom 14% of blacks, as Sander did, there is a 12.7% decrease in lawyers.

We only calculated the probability of black students becoming lawyers at the white median tier if there were a minimum of five black students in that tier/index range combination. This means the above

affirmative action would result in a disproportionate downward shift toward Tier 3 schools (which is the white median tier for many index ranges).[18]

[Insert Table 1 here]

But as shown in Table 1, the elimination of affirmative action would only occasion 53.7% of black law students to move to a lower quality tier. As earlier shown in Figure 1, almost half of blacks already were going to white median tier or lower.

How can it be that Sander estimated an increase in black lawyers, while we estimate a reduction? The main reason for the difference is that Sander assumed that in a world without affirmative action black students would have become lawyers at the same rate as white law students with same entering credentials. But the next section will show that turns out not to be true.[19] Black law students attending the white median tier schools are substantially less likely to become lawyers than white students with the same index score attending the same tier – and this disparity is greater if the black students attended schools in the white median tier than if they attend schools one or two tiers above the white median tier. When we estimate the impact of shifting black students down to the white median tier, it should therefore not be surprising that we, contra to Sander, estimate a reduction in the number of black lawyers. The white median tier analysis suggests that current affirmative action on net is enhancing the probability that blacks will become lawyers.

Of course, in a world without affirmative action, blacks with a given index score would not all attend the white median tier—some would go above and some would go below this tier. Thus we might, as Sander does, alternatively assume that without affirmative action blacks within a given index range would attend exactly the same distribution of schools as whites within that index range. Again using the black bar passage rate for blacks within a given index range at a given tier (rather than the rate for white with the *same* index at the *same* tier), we find that elimination of affirmative action would result in a decrease of black lawyers from the LSAC data by 9.4%.

We do not wish to claim that our predictions of a decrease in the number of black lawyers by 12.7% or 9.4% (depending on the model) are fool-proof. Hardly. All of these predictions (Sander's and ours) are sensitive to the assumptions behind them. The key assumption for Sander is that he ignores black-white bar passage disparities in his counterfactual world without affirmative action. The next section will show that this assumption—driven by his academic mismatch claim—is implausible and contradicted by the data. We are not suggesting that the black bar passage rate at these various tiers

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calculation does not include approximately 5.2% of the entering black students, all in the lowest index ranges (and all included in the bottom 14% of blacks). While we did not have sufficient numbers to calculate black probability of becoming a lawyer at the white median tier for the 1.7% of black students in the highest index ranges, we substituted white probability of becoming a lawyer at the white median tier. This is a conservative estimate, as it is very likely that the probability of becoming a lawyer for black students is below this.

[18] The white median tiers for various index ranges are summarized below:

281-420 (95 black students) – no white median tier (because insufficient number of white students);
421-440 (55 black students) – white median tier = 1;
441-740 (1525 black students) – white median tier = 3;
741-880 (141 black students) – white median tier = 4;
881-1000 (8 black students) – white median tier = 5;
960-980 (0 black students) – white median tier = 6;

[19] See infra Figure 3 and Table 2.

would not change with the elimination of affirmative action. We can be confident that it would change, but we cannot be too confident—nor can Sander—in assessing how it would change. He takes the most optimist view possible. We have no quarrel with optimism per se, but we think it is sensible to reassess one's optimism in the light of contrary data. And what do the data tell us? In the next section we argue that the data do not support the academic mismatch claim advanced by Sander. Thus there is little reason to believe that with the elimination of affirmative action blacks will become lawyers at the current rate that whites do (which, again, is the rate Sander uses to arrive at his 7.9% figure). This rate, by the logic of his own account, is simply too high: even whites would not pass the bar at the current white-rate if affirmative action were eliminated. To see this, note that his academic mismatch hypothesis posits that relative minority grades would increase in a race-blind system. This implies that relative white grades must fall, and since (by Sander's Table 6.1) grades are the most significant predictor of bar passage, white bar passage rates should also fall. Therefore even if blacks and whites were to pass that bar at the same rate in this race-blind system (and there is overwhelming evidence to suggest that they would not), there would be fewer black lawyers than Sander's analysis suggests.

II. Testing the Mismatch Hypothesis

A. The Relative Tier Analysis

Looking Figure 1, two features are immediately apparent: first, blacks with a given index score are distributed both above and below the white median tier for that score; and second, a non-trivial number of whites and blacks with the same index scores attend schools in the same tier. This intra-racial variation and inter-racial overlap allow us to more directly test Sander's mismatch hypothesis:

- Sander concludes that blacks would become lawyers at the same rates at whites if blacks and whites with the same entering credentials counterfactually attended the same quality schools. But we can test this conclusion in the existing data by focusing on those whites and blacks with the same credentials who are currently attending schools in the same quality tier. Instead of looking at the rate at which whites become lawyers, it is more direct to look at the rate of becoming lawyers for blacks with similar incoming credentials, who attend the same tier schools, as whites. This test exploits the inter-racial overlap.

- Sander concludes that students will become lawyers at a lower rate if they attend schools where their credentials are below the median credentials. But we can test this by looking at whether the rate of becoming a lawyer declines as students with the same entering credentials attend a school in higher or lower tier. This test exploits the intra-racial variation.

Putting these two conclusions together, Sander should predict that the probability of becoming a lawyer will monotonically decline as the tier relative to the white median tier increases. Students with the same entering credentials who go to a tier below the

white median tier should make order of the coif and ace the bar. Students who go one or two tiers above the white median tier should find themselves in over their heads: their grades should suffer and they should increasingly fail out of school or fail the bar. And Sander's conclusion that race or racial correlates do not independently determine the probability that students will become lawyers should lead Sanders to predict that blacks and whites with the same entering credentials attending the same quality school should have the same probability of becoming lawyers. These stylized predictions are depicted in Figure 2:

[Insert Figure 2 here]

Figure 2 shows two identical probability curves that decrease as students with the same credentials go to law schools in higher-ranking tiers.

But when we calculate the actual rates at which black and white students with the same index become lawyers, we find patterns that substantially diverge from Sander's predictions. For example, if we look at whites and blacks with (entering credential) indexes between 600 and 620, we find that the median white attended tier 3 law schools and these whites had a 77.8% chance of becoming lawyers at tier 3. But when blacks with the same entering index scores attended tier 3 law schools, they had only a 55.0% chance of becoming lawyers. This disparity is inconsistent with Sander's theory. Moreover, when blacks with the same index score attended tier 4 schools they had a higher probability – a 66.0% chance – of becoming lawyers. This example is inconsistent with the idea that affirmative action is responsible for the racial disparity in becoming lawyers.

But to make a more systematic test of this effect, Figure 3 looks at the rate at which blacks and the whites with the same index scores became lawyers when they went to different tiers.

[Insert Figure 3 here]

Figure 3 shows the probability of becoming a lawyer for blacks and whites with a particular index range relative to the probability of becoming a lawyer for whites with the same index range who attended the white median tier.[20] Thus, Figure 3 shows that the probability of becoming a lawyer is 20.3 percentage points lower for black than for whites – even when both have the same entering credential index and both attend the tier where the median white with that index goes.[21]

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20 To construct Figure 3 we first identified the median tier school for white students for each index range (the "white median tier"). We then calculated for each index range the rate at which whites attending white median tier schools became lawyers. We then calculated the rate at which blacks with index scores in the same index range became lawyers at various relative tiers and we subtracted the white rate at the white median tier from these black rates. Thus, we calculated for each index range the difference between the black rate at the white median tier and the white rate at the white median tier, the difference between the black rate at a tier above the white median tier and the white rate at the white median tier, etc. To aggregate these differences, which we calculated for each index range, into an average racial disparity, we simply calculated the average disparity weighted by the number of blacks attending that particular tier in that particular index range. We then repeated this exercise for whites who attended tiers other than the white median tier.

21 The following table shows the underlying structure of the data that went into producing Figure 3:

	White Med Tier -1	White Med Tier	White Med Tier +1	White Med Tier +2
Number of blacks compared	89	452	544	284
Number of black index/tier comparisons	20	23	26	23

This graph seriously undermines Sander's conclusion that the elimination of affirmative action would increase the number of black lawyers. When blacks and whites with the same index scores go to white median tier schools, blacks still become lawyers at substantially lower rates. In fact, Figure 3 shows that when blacks and whites have the same index, blacks do relatively better if they go to a school one or two tiers above the white median tier for that index range. The shortfall in becoming a lawyer is only 11.9 percentage points lower for blacks who attend a school one tier above the white median for that index range.

While the Figure 2 depiction of the mismatch hypothesis predicted identical downward sloping lines, Figure 3 shows generally upward sloping lines that are far from identical. Counter to the mismatch hypothesis, blacks and whites at times have a higher probability of becoming lawyers if they attend schools in higher tiers than where most white students within a particular index range go. Figure 3 suggests that if you are a white student who wants to maximize your chance of becoming a lawyer, you should prefer going to a tier 5 school even though tier 3 is the mean, median and modal tier for whites with your entering credential index.

A similar pattern is revealed when we limit our attention to black students with index scores where the median white tier is 3. For these 1557 black students, the racial disparity in the probability of becoming a lawyer moves from a black shortfall of 20.3 percentage points for tier 2, to 21.8 for tier 3, to 13.7 for tier 4, to 18.9 for tier 5. Again, going to a school below the white median tier hurts a black student's chances of becoming a lawyer. Going to a school above the white median tier increases a black student's chances of becoming a lawyer.

Sander might argue that the 20 percentage point difference for blacks and whites with the same indexes attending the same (white median) tier is not necessarily inconsistent with his theory. It might be that within a tier there may be a range of school quality and that within a tier blacks (because of affirmative action) may tend to go to the

% of comparisons where white probability of becoming a lawyer was higher than black probability	55.0%	78.3%	73.1%	73.9%
% of black students in index/tiers where white probability of becoming a lawyer was higher than black probability	75.3%	96.2%	89.5%s	77.1%

Each of the black differentials in the probability of becoming a lawyer is based on a comparison of at least 20 Index/Tier combinations. Focusing on black students who attended white median tier schools we find that in 18 of 23 index ranges (78.3%) the white probability of becoming a lawyer was higher than the black probability of becoming a lawyer. And 96.2% of black students attending white median tier schools were in index ranges where the white probability was higher than the black probability. Non-parametric tests indicate that all but one of these probabilities are statistically greater than 50% – indicating in yet another way that the probability of whites becoming lawyers at white median tier schools was statistically greater than the probability of blacks with the same index scores becoming lawyers regardless of the tier school they attended. The sole exception was the proportion of index/tier comparisons concerning blacks who attended the white median tier minus one.

The data used in calculating Figure 3 is different from the data used in calculating Figure 1 in one crucial respect: Figure 3 leaves out blacks who attended traditional black law schools. As discussed above, traditional black law schools attract substantial numbers of blacks with index scores that lead whites to normally attend tier 3 schools. As we will later see, blacks that go to these tier 1 schools do substantially better than blacks with similar indexes who attend other schools.

better of these schools relative to whites with the same index score. In essence, Sander's might argue that the mismatch theory still operates within the rough-cut tier categories. But this theory would still not explain why black students with the same index score do relatively better when they attend schools in higher quality tiers. Returning to our earlier example, this theory might help explain why for students with an index between 600 and 620 attending tier 3 schools, blacks are 22.8 percentage points less likely to become lawyers. But it does not explain why blacks in this index range who attend a higher-quality tier 4 school, have only 11.8 percentage point shortfall (relative to whites with these credentials attending tier 3 schools).[22]

In response to this, Sander might argue that that it is inappropriate to compare blacks with the same entering index credentials who go to schools in higher-quality tiers. Holding the index score constant, the blacks that go to higher quality tiers might have "hidden credentials" (what economists call unobservable characteristics—that is, unobservable to researchers though perhaps not to admissions officers) that explain not only why they applied and were admitted to the better school but also explain why they had a better chance of becoming lawyers. We are quite sympathetic to just this possibility, and we attempt to address it the next part of our analysis concerning students who were admitted to their first choice school. But this is one claim that Sander himself cannot make (and still stand by the rest of his analysis). If black students are getting into higher quality schools because of unobservable characteristics, then we can no longer be assured of the extent to which affirmative action preferences are operating. Moreover, Sander's whole approach to estimating how ending affirmative would impact the number of black lawyers fails if we believe that there are important unobservable effects. He could no longer assume without affirmative action that blacks would become lawyers at the same rate as whites with the same index because he would need to control for the hidden credentials that impact the rate of all student's success.[23]

Alternatively, Sander might worry that the results of Figure 3 are somehow undermined by overlaps in law school quality across the tiers: For example, the best law schools in tier 3 might be higher quality than the worst law schools in tier 4. Sander might argue that blacks with a given index range fall actually further below the peers at the best tier 3 school than they do at the worst tier 4 schools. But this theory is inconsistent with the last's paragraphs concern that black students within each tier would tend (because of affirmative action) to go to better quality than white students with similar index scores. The system of affirmative action should reduce the effective overlap. Moreover, Figure 3 shows that African Americans who attend schools two tiers

[22] To further explore this issue, we looked to see in the 1995 data, the extent to which whites and blacks with the same index scores attend the same school (not just the same tier). An analog to Figure 1 is available in our Web Appendix showing a substantial degree of overlap. 15.9% of whites attend the white median school, compared 6.9% of blacks. All in all, we found that there were on average 1.8 whites in the same index range and attending the same school for every black student in our sample.

When we created 150 matched pairs of black and white students at the same school with nearly identical index scores (average difference of only 1.78), we found counter to Sander that black law school grades were .19 standard deviations lower than white law school grades and that this shortfall was statistically significant ($z = 2.09$), but the proportion of whites with higher grades than their black pairmate (52.2%) was not statistically different than the 50% that Sander's theory would predict ($z = .49$).

[23] Unless he were to also assume that hidden credentials are identically distributed across race, which would be a strong assumption especially in light of the fact that he cannot observe these credentials.

above the white median tier do substantially better than blacks attending the white median tier. We see a similar result if we compare black students who attend schools at a tier below and a tier above the white median tier. The overlap problem should be much smaller when we compare schools that are two or three tiers apart – but we still persistently find a reverse mismatch effect.

Finally, Sander might claim that our results here are inappropriately driven by the fact that most of the blacks in the sample would be forced into the third tier by our median tier analysis. Our results disproportionately turn on the bar passage rate of blacks at that tier. But it is not clear why this would be an underestimation. Sander's own regressions similarly give disproportionate weight to observations with the most numerous index scores.[24] More whites go to the third tier (37%) than to any other tier and Sander's theory should predict that in the absence of discrimination it is where most blacks would go. Even when we distribute blacks with a given index score across tiers in the same proportion as whites with the same index score, we still observe that blacks are consistently less likely to pass that bar than whites.

The visual impression of Figure 3 is strongly collaborated by the logit regression in Table 2. For that Table, we regressed a dummy variable – which equals 1 if a student became a lawyer and 0 if the student did not graduate, did not take the bar or did not pass the bar – on the student's index score, race dummies as well as various "relative tier" interaction variables. The "relative tier" variables takes on integer values of -5 to 5 and measures what tier law school the student attended relative to the tier attended by the median white student with index scores in the same range. We interacted this "relative tier" variable with each of the potential race dummies (excluding white).[25]

[Insert Table 2 here]

The Table 2 regression rejects both of the predictions based on Sander theory. After controlling for index score, white law students have a statistically higher chance of becoming lawyers if they go to tiers that are relatively higher than the median white tier. This is a reverse mismatch result. And this reverse mismatch result is even stronger (and more statistically significant) for black students than white students.[26]

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[24] See his Table 6.1.

25 Some readers might question why law school grades are excluded from this regression, given the emphasis Sander puts on them. But it should be remembered that Sander doesn't include law school grades in his own estimate of the impact of affirmative action on the probability of becoming a lawyer. Sander's meta-theory is that the entering-credential index and the relative tier of your law school solely determine your law school grades and that these three variables (index, relative tier, and law school grades) then determine your probability of graduating and passing the bar. Law school grades should be excluded from the regression for two reasons: 1) the regression is looking at the determinants of becoming a lawyer at the moment of application/entering law school and law school grades are not known at this time, 2) because Sander's theory is that law school grades are themselves determined solely by the index and the relative tier, it is more appropriate to run a reduced form regression rather the introduce an implicit random error term in the right-hand side of the regression. Other variables can be excluded because Sander argues that they have no statistical impact on either law school grades or the probability of becoming a lawyer. Finally, inclusion of law school grades does not change our qualitative findings.

[26] Reverse mismatch has been observed elsewhere. See, e.g., Sigal Alon and Marta Tienda's analysis of college graduation rates. They found that attending more selective colleges leads to more timely graduation rates for minority students. They observed that "institutional selectivity appears to reflect better learning opportunities via better prepared classmates or better teachers (Kane 1998). It could also represent the larger institutional endowments and resources that allow for smaller class sizes and facilitate strong

When students are overmatched by their classmates they on average are carried along in the data to more success. The mismatch hypothesis is plausible, when it comes to law school grades – after all if courses are graded on the curve, students with better entering credentials are more likely to get the limited supply of "A"s. But the mismatch theory is more ambiguous with regard to success after law school. Overmatched students in more selective academic settings may be mentored and inspired by their better-credentialed peers or teachers, or obtain the advantages of greater institutional commitment and resources to academics in more competitive schools. It is entirely sensible that student receive some marginal benefit form going to stronger schools, but what is striking about Table 2 (and Figure 3) is how much better students do on the bar when they go to a school with better credentialed peers and a better tradition of bar passage success. Even here, the mismatch hypothesis must at some point have traction – sending a second-grader to study corporate finance is surely folly. But it is not irrational for parents to want to get their kids into the best possible law school (even if they are overmatched) – just as it is not irrational for parents to red-shirt their athlete/children so that they will have more mature than average bodies in their class. When it comes to ultimate success, choosing the right peers might favor either the mismatch or the reverse-mismatch hypothesis.

Table 2, like Figure 3, also suggests that the black regression line is substantially below the white line. After controlling for both the entering credential index and the relative quality tier that the student attends, black students have a substantially lower chance of becoming lawyers. And both the reverse mismatch and racial disparity effects are highly significant in the statistical sense. Table 2 also shows that there is, on average, an increase in the probability of becoming a lawyer of 2.8 percentage points per tier for black students as they move up beyond the white median tier. Note also the narrowing racial differences in bar passage as blacks and whites with comparable incoming credentials go above the white median tier.

The core results of Table 2 persist if we include separate tier dummies, and if we include squared and cubed index variables. In all these alternative regressions, the relative tier coefficients for whites and for blacks remain significantly positive and the black student coefficient remains significantly negative.[27] But the relative tier coefficient for blacks is positive but no longer statistically significant if we add in students at historically black schools. Black students who attend these tier 1 schools have a substantially higher probability of becoming lawyers (conditional on their incoming credentials) and this pushes up the left-hand end of the regression curve causing the slope of the relative tier variable for blacks to be statistically indistinguishable for zero.

But the relative success of blacks at historically black schools is hardly a ringing endorsement of Sander's mismatch theory. The slope of the relative tier variable for blacks overall is never statistically negative as Sander's theory should suggest. And the fact that blacks do well when surrounded by a critical mass of other blacks might suggest other theories for what is causing the dramatic shortfall in black achievement.

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mentoring at the most competitive schools." Alon and Marta Tienda, Assessing the "Mismatch" Hypothesis: Differential in College Graduation Rates by Institutional Selectivity, Working Paper (June 2004).

27 However, if we include both separate tier dummies as well as squared and cubed coefficients, the white and black relative tier slopes are no longer statistically different than zero.

Why do we find that attending higher-tier schools helps black students on average to pass the bar, while Sander claims the opposite? Centrally, Sander fails to account for whether the higher probability of becoming a lawyer at better tiers is outweighed by the lower law school grades a mismatched student was likely receive there. While Sander found that students have a better chance of passing the bar at better tiers, he never tested whether this better tier effect outweighed the lower-grade effect. It is crucial to remember that Sander's own regression (reported in his Table 6.1) found a better-tier effect. He concedes, "[w]hen we control as best we can for the incoming credentials of student bodies, students at more elite schools have higher, not lower, success rates on the bar." On the other hand, Sander's earlier regression suggested that a mismatched student is less likely to earn good grades at more competitive schools. He argues that attending a more competitive school lowers the student's bar passage chances since "grades have everything to do with [one's chances of passing the bar]"[28] Sander claims that the lower-grade effect dominates: "[t]he net trade-off of higher prestige but weaker academic performance substantially harms black performance on bar exams…"[29] He later refers to his Table 6.1(which shows the relative power of various bar passage predictors) to lend circumstantial weight to this claim.[30] However, the standardized coefficients in this table do not tell us the marginal effects of choosing to go to a more selective school. The question remains, how much, if at all, does this choice affect one's grades at the margin compared to the marginal boost in bar passage from going to a higher tier. Sander never directly addresses this question.[31] Table 2 and Figure 3 do just this. Our relative tier analysis suggests that on net the better-tier effect outweighs the lower-grade effect. Furthermore, the different slopes and intercepts found in Table 2 suggest that while the better-tier effect dominates for both whites and black law students, different causal mechanisms may be at work for different races.

B. Analysis of Students Who Were Admitted to Their "First Choice"

Though seemingly commonsensical, empirically identifying academic mismatch is no simple matter. Consider, for example, a study of the Chicago public school system's (CPS) lottery program. Any student in the CPS may apply to any number of schools within the system. When demand for admission to a given school exceeds the

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28 Id. at 449.

29 Id. at 371-72.

30 "And the regression results in Table 6.1 mean that, if one's primary goal is to pass the bar, higher performance is more important. If one is at risk of not doing well academically at a particular school, one is better off attending a less elite school and getting decent grades." At 445.

31 Relying on the standardized coefficients from his Table 6.1, which shows the magnitude of law school grades is four times as great as law school tier, Sander suggests that if students chooses higher tier schools, "[w]hen they take the bar, they will get a small lift from going to a more elite school, but a big push down from getting lower grades. The net effect will be a markedly lower bar passage rate." Sander at 445. However, in order to know the true net effect we would need to know the marginal effects of going to a higher tier. Using Sander's bar passage regression, one might be tempted to calculate the predicted bar passage rates if black and white students went to a lower or higher tier school. However, since by hypothesis law school grades are affected directly by tier shifts, we would first have to use LSAC data to predict the effect on law school GPA of attending a lower tier law school. We could then predict the effect of attending law school in a lower tier on bar passage while accounting for the tier shift's effect on law school GPA from the first step. Unfortunately, the fact the LSAC data does not standardize incoming credential prevents this analysis.

supply of available slots, lotteries are commissioned.[32] Cullen, Jacob and Levitt (2003) use these lotteries to estimate the effect of winning a lottery to high-achieving and lower-quality schools on standardized tests and other traditional measure of academic performance. Though they were not explicitly seeking to test the academic mismatch hypothesis, some of their findings are consistent with its implications: "[H]igh-achieving school lottery winners are systematically *less* likely to test in the top quartile on standardized tests."[33] On the other hand, they found "no significant differences between lottery winners and losers at high-achieving schools on dropout rates[,] absences, or course credits."[34]

In contrast to Cullen's et al. randomized design, consider Sander's "natural experiment" to identify mismatch. To examine the claim that the "treatment" of racial preferences hurts blacks, he seeks an experimental group that will receive the treatment and a control group that will not. (The extent to which index scores are inflated may be considered the dosage of the treatment.) It is important for validity of his results that the experimental and control groups differ only in terms of receiving or not receiving the treatment. Arguing that there is not sufficient variation among blacks (since few actually sign-up for the control group when given an opportunity to have the experimental treatment, i.e., admissions to a more elite law school), Sander uses a sample of "comparable" blacks and whites and seeks to take "advantage of the fact that affirmative action policies place similar blacks and whites at very different institutions."[35] Thus in his framework, affirmative action is a randomizing selection mechanism that places otherwise "similar" subjects in the control group or the experimental group.[36] Unfortunately, selection into the groups is not random: only blacks are selected for the treatment. This non-randomness is a problem for his experiment if race has anything to do with the outcome measures of interest. Sander responds to this by claiming that race has nothing to do with the outcomes of interest (i.e., law school grades, dropout and bar passage rates): "the collectively poor performance of black students at elite schools does not seem to be due to their being 'black' (or any other individual characteristic, like weaker educational background, that might be correlated with race). The poor performance seems to be simply a function of disparate entering credentials."[37] Our analysis of black and white students with comparable entering credentials refutes this claim.

Sander too acknowledges that "[a] number of careful studies, stretching back into the 1970s, have demonstrated that … [i]f anything, blacks tend to underperform in law school relative to their numbers, a trend that holds true for other graduate programs and

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32 "For a limited number of programs, typically the most selective, admission is based on criteria such as test scores, and lotteries are not used." Julie Berry Cullen, Brian A. Jacob and Steven Levitt, The Effect of School Choice on Student Outcomes: Evidence from Randomized Lotteries, NBER Working Paper 2003, at 6.

33 Id. at 18, footnote 18 (emphasis in original). Yet, even this result must be interpreted cautiously because in most of the school lotteries, less than 50 percent of lottery winners ultimately enrolled. This level of non-compliance among lottery winners undermines our belief that the intent-to-treat (i.e., winning a lottery) is an appropriate proxy for the treatment (i.e., attending a more selective school).

34 Id. at 18.

35 Id.

36 "[Affirmative action] policies create an opportunity for a natural experiment on the effects of academic mismatch…" Id.

37 Id. At 429

undergraduate colleges."[38] Indeed, even his own 1995 National Survey data suggest an effect of race beyond incoming credentials. As Jim Lindgren and others have observed, Sander implicitly treats those who didn't report their race in his 1995 data set—about a quarter of the total sample—as white. When the non-reported data are accounted for in a variety of ways, the coefficient for the black student indicator variable becomes significant and negative. This point, which Sander concedes,[39] can be observed in our Table 3. The first column of figures in Table 3 reports our attempt to reproduce Sander's original analysis, where the coefficient on "Black" is small and statistically insignificant. In the second column of figures we drop those who did not report their race. In the next column we keep those who didn't report their race, while including an indicator variable for these respondents. In the last column we attempt to impute the race for those students who didn't report it. For our imputation we first ran a multinomial model using only reporting students to estimate the probability of falling into 1 of 5 race categories. Since most of the relevant variables were missing for almost all non-reporting students, we relied on zlsat and zugpa as independent variables in the model. We predicted the probability of being in each race category for the non-reporters, and then ran OLS using the whole sample and the new race dummy values for the non-reporters.

[Table 3 Around Here]

None of these responses to missing data are perfect, and some are more flawed than others.[40] We present them not to resolve the matter, but principally to show that the results of Sander's Table 5.2 are sensitive to how these missing data are treated. And, in any event, Table 5.2 cannot demonstrate or falsify the academic mismatch hypothesis.

As Sander observes, the ideal way to test this hypothesis "would be an experiment comparing matched pairs of blacks admitted to multiple schools, with the 'experimental' black student attending the most elite school admitting them and the 'control' black student attending a significantly less elite school."[41] Sander claims that this experiment is not feasible because "few blacks pass up the opportunity to go to more elite schools."[42] It is not surprising that law school applicants are hesitant to pass up the opportunity to go to their first choice schools. Yet many do for a variety of reasons, and this fact (which is captured in the broader LSAC data) can be exploited to provide a limited test the mismatch hypothesis.

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[38] Id at 424 (notes omitted). Furthermore, other studies by the Law School Admissions Council have also found a negative statistical effect of race (i.e., black) on law school grades.

[39] He observes that the "race" coefficients predicting first-year law school grades in his Table 5.2 are negative and statistically significant "if one does not include those not reporting race with white students." Id. at 429-430, footnote 175.

[40] Multiple imputation is generally considered the best response to dealing with missing data problems of this sort. Listwise deletion, mean substitution, and simple regression imputation (our approach in the last column of Table 3), are plausible though less ideal responses. Ad hoc data replacement, of the kind employed by Sander, may be the least scientifically appropriate way to handle missing data. Allison PD. Multiple imputation for missing data: a cautionary tale. Sociological Methods and Research 2000;28:301-309; Rubin DB. Multiple imputation for non-response in surveys. New York: Wiley, 1987; Schafer JL, Graham JW. Missing data: our view of the state of the art. Psychological Methods 2002;7(2):147-177.

41 Sander at 453 (footnotes excluded).

42 Id.

Our empirical strategy is similar in spirit to Dale and Krueger's (2002) approach. Principally relying on the "College and Beyond" survey data—where respondents were asked which undergraduate colleges they seriously considered and to which schools they applied and were accepted—Dale and Krueger matched students who reported that they were accepted by similar quality schools. Based on this matching, they were able to compare the earnings outcomes of those who chose to attend more selective colleges to those who attended less selective one.[43]

In a similar fashion, the LSAC survey data allow us identify students who reported that they were admitted to and subsequently enrolled into their first-choice law school, as well as those who reported that they were admitted to their first-choice, but attended a lower choice school for financial or other reasons.[44] Assuming that students rank more competitive schools higher among their choices, if mismatch exists we ought to observe that relative to those students who attended their first-choice schools, [45] those who were admitted but attended their second or lower choice law school should perform better.[46]

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[43] Dale and Krueger found little advantage (in terms of earnings) for students who attended more selective schools, *but* students from "disadvantaged backgrounds" (e.g., those from lower-income families) did earn more by attending more selective colleges. On the other hand, they observed some disadvantage (in terms of class rank) for students who attended more selective schools.

[44] In one prompt on the LSAC survey, respondents were asks: "Is the law school that you are attending your (i) first or only choice (ii) second choice (iii) third or lower choice?" A follow-up prompt allowed us to select those who were admitted to their first choice but chose not to attend for financial or personal reasons. The prompt read as follows: "Why are you not attending the law school that was your first choice?" To which the respondents could answer (i) "I was not admitted", (ii) I was admitted but it was too expensive given the financial aid made available to me" (iii) "I was admitted but it was too distant from my family or personal responsibilities or attachments." Subsequent analysis may call for treating those who responded with (ii) differently from those who answered (iii). In most (though not all) cases one would, presumably, be aware of distance constraints at the time of application, which calls into question why they applied in the first place. There are certainly plausible reasons why one might apply to a law school even knowing that distance may be a prohibitive concern so we do not make much of this concern here.

[45] We attempted to identify the factors that might influence an applicant's decision to forgo their first choice by running race-specific regressions using LSAT, UGPA, Family Income, Male, Law School tier, and the number of school to which the student applied and was admitted. This analysis reveals that while almost all of these variables were insignificant for blacks, most were highly significant for whites. For example, white males and whites with more family income were significantly less likely to pass up their first choice. Compared to blacks, whites are also less likely to turn down their first choice when it is in a higher tier. These across race differences, however, are not our biggest concern, since our mismatch test compares outcomes within race but across schools of differing selectivity (by assumption). We remain concerned about matriculation patterns within race, which could bias our results.

[46] This is a strong, sobering, assumption that ought to constrain too much exuberance for the results of our first-choice analysis. While it may appear an intuitive assumption, and there may be incidental support for it in other parts of the LSAC data, it is important to emphasize that the analysis rests on this belief about the data that we cannot observe of verify. We are grateful to Tim Clydesdale for pointing out to us that the way respondents view their first choice school is subject to tremendous variation. The data indicate that some respondents seemingly interpreted "first choice" to be first choice on the universal set of law schools, while others apparently had in mind first choice among the schools to which they applied, and others still interpreted it as first choice among the schools to which they were admitted. For example, of those who *applied* to only 1 law school, 43 said their current law school was their 2nd or 3rd choice law school, and some who *applied* to only 2 law schools said their current law school was their 3rd or lower choice school. Similarly, of those who were *accepted* at just one law school, 4,441 indicated they were *not* at their first choice law school, and among those *accepted* at just two law schools, 1,655 said their current law school was their 3rd or lower choice school. We go forward with this analysis nonetheless because it illustrates the

While this is not an implausible test, it is important to describe its limitations and how it differs, for instance, from the stronger design of Dale and Krueger. Knowing the actual schools when attempting to match students who applied to and were admitted or rejected by similar colleges, Dale and Krueger were able to construct a metric of selectivity based on the school's average SAT score, net tuition, and Baron's Guide. With this rich selectivity data, they were able to generate *rough* matches[47] and *exact* matches[48] of students. In contrast, we have no measure to directly control for law school selectivity in matching blacks who applied, were admitted to and attended their most elite (presumably "first choice") law school with those who were admitted, but did not attend their most elite choice. Interestingly, the Law School Admission Council originally had in its data base, for each law school applicant in 1991, the identities of all the schools to which her LSAT scores had been sent.[49] Thus stronger matching than we currently use might have been accomplished.[50] Nonetheless, because Sander does not explicitly test the academic mismatch hypothesis he advances, the "first choice" approach—with all its limitations—still appears to be among the strongest and most direct available evidence on mismatch in the law school setting. We take this point not as an indication of the quality of our analysis, but as a strong statement about the quality of the data on which we and Sander rely. We leave it to the responsible reader to make of it what she will. Here is what we find.

Taking all the students who were admitted to their "first or only choice" and for whom there existed data on appropriate controls, we are left with 10,001 students in the sample. It is interesting to note that blacks were twice as likely as whites to turn down their first-choice (20% of blacks and 10% of whites did not attend their first-choice conditional on being admitted). We then dropped those who were admitted to only one school,[51] which left us with 6,152 students who reported that they had a choice among

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type of design needed to assess academic mismatch and the general poor quality of the extant data in this regard.

[47] They matched students who applied to and were accepted and rejected by equivalent schools—that is, schools with average SAT scores falling in a given 25 point range, or schools falling within the same selectively categories used by Baron's Guide.

[48] "Students who applied and were accepted or rejected by exactly the same schools" Dale and Krueger at 1509.

[49] LSAC may have also possessed the names of all the applicants accepted by the various the schools. Yet even without this information, we would still be able to improve our "matching" using where LSAT scores were sent and the students' reports of the number of schools that admitted them.

[50] Unfortunately, given the available data and the limited publication time imposed by the Law Review we are unable to offer more than this approximate approach.

[51] This additional step is essential because "first choice" is lumped with "only choice" in the survey. There are good reasons to suspect that students who go to their "only choice" have underlying characteristics that are meaningfully different from students who have multiple choices. Assuming that those students with only one choice are less competitive on hidden characteristics, including them with the first-choice attendees in our analysis would overestimate the relative effect of going to a second or lower choice. Our results are qualitatively similar when we merely drop those who only applied to one school. We report coefficients from the multiple admissions model, rather than multiply applications, because it is theoretically more consistent with our framework. This concern about "only choice" respondents is quite salient because in the 1990-91 applicant pool that produced the BPS, 23% of all ABA applicants applied to only one law school, an additional 13% applied to 2 law schools, and another 10% applied to 3 law schools. Linda F. Wightman, "An Examination of Sex Differences in LSAT Scores from the Social Social Consequences," 11 Applied Measurement in Educ. 255, 270 fig.3 (1998). .

law schools, where some attended their first choice and others attended their second or lower choice. Table 4 shows some basic descriptive statistics of these "first and second choicers." While there are clear differences across race in terms of LSAT and UGPA, note that within race, the students who attended their first choice are quite similar to those who attended their second choice along these dimensions.

[Table 4 Around Here]

We next coded the variable "Second Choice" to 0 if the student reported that she attended her first-choice school and 1 otherwise, conditional on being admitted to her first choice. To test for academic mismatch we regressed first-year law school grades on a variety of controls—including an indicator for number of school which the students applied to limit selection bias—and "Second Choice". The results of our regressions are reported in Table 5. The first column of figures represents the whole sample, and the next two columns representing the black and white sub-samples, respectively.[52] This analysis provides some support for the mismatch hypothesis with regard to law school grades for white students, but not for blacks. Specifically, the positive and statistically significant coefficient on the Second Choice variable in the third column of figures under each model suggests that those white students who chose not to attend their first-choice schools were likely to earn higher first-year grades. There is, however, no significant pattern from attending a second or lower choice for the black sub-sample. Black students who are accepted into more than one law school but who do not attend their first choice, counter to Sander's mismatch hypothesis, do not receive better first-year grades.[53]

[Table 5Around Here]

[52] We limit our discussion here to the black and white subsample since those were the groups on which Sander focused in his analysis. We found substantially similar results when we ran included tier specific LSAT and UGPA controls and when we ran the model on three year law school grades.

[53] We, again, acknowledge that academic mismatch effect on grades is a reasonable proposition, particularly in an environment where there are a limited number of high marks because grading is based on a curve. In our web appendix, we also produced an analog to Figure 3 showing the impact on law school grades when students in the same index score attended a more selective school. Contrary to our finding of a reverse mismatch effect on the probability of becoming a lawyer, this school-specific analysis of the 1995 data suggests that there was a mismatch effect for both whites and blacks on law school grades. Additionally, Bowen and Bok's analysis, as well as Dale and Krueger's, lends support to this proposition, with some important caveats relating to their black sample size (see Chambers et al., in this issue). Furthermore, our own analysis is suggestive of mismatch on grades among whites.

Why do we not observe grade mismatch among blacks in the first-choice analysis? One possibility is that the marginal return on grades from attending a more selective law school (with greater resources to devote to its students) is be higher for blacks than whites. Another obvious possibility is that there are problems with the data or some uncontrolled selection bias in the black or white sub-sample. Recall, for instance, that different factors appear to influence whites and blacks when making the decision to attend their second or lower choice (see discussion supra note 45). Thus those white males and whites with greater family incomes, who are more likely to attend their first choice, may pay for that decision with lower grades. Whereas blacks may be more circumspect when making this decision (they are about twice as likely as whites to turn down their first choice) and therefore pay less of a penalty when they decide to attend their first choice. Certainly other plausible stories may be spun, none of which we can prove with this data. We can only observe that the data do not support black mismatch on grades.

The results of the first-year grade regressions should be interpreted with some care. It is likely that the returns from attending a second-choice (or, by assumption, a less selective) law school are not homogeneous. Some students may benefit slightly by forgoing their first choice law school to attend a marginally less competitive one, while others might be hurt by making this choice. Our analysis cannot demonstrate whether the average white student benefits by forgoing her first choice. As Dale and Krueger observe, "the students who choose to go to less selective schools may do so because *they* have higher returns from attending those schools…"[54] The returns to the average student may not be greater by attending a less selective law school. Our results indicate only that for *some* white students, attending their first choice school (which we assume to be a more selective school in general) may not be the grade-maximizing option. But frankly, we cannot even say why this is so. For example, relatively higher grades for someone who chooses to attend a lower choice school for "personal attachment" reasons may reflect a boost that the student receives from being surrounded by greater family support rather than being surrounded by academically less competitive classmates or a combination of the two factors or neither. Furthermore, the grade maximizing trade-off of those who optimally choose a less selective law school may not be the maximizing decision in terms of bar passage. It is a complicated interaction and our design, while an improvement over Sander's, is far from ideal.

Table 6 reports our regression results on the likelihood that the respondent passed a bar within five years of beginning law school. The first column approximates Sander's Table 6.1 on bar passage but as applied to law students who were accepted by more than one school including their first choice. To Sander's regression we again add our "Second Choice" dummy to test whether failing to attend your first choice school impacts your probability of becoming a lawyer (we also again add a control for number of schools applied to).[55] The regression for all races and for each racial sub-sample suggests that attending a second or lower choice school does not statistically improve a student's odds of passing the bar within five years of starting law school.

[Table 6 Around Here]

In our analysis of first-choice admits, the only outcome on which we found an advantage for black second or lower choice attendees over their first choice counterparts was with regard to passing the bar within four years of starting law school. It is unlikely, however, that this advantage is driven by mismatch, given the absence of evidence pointing toward improved grades or graduation rates from attending a second or lower choice among blacks. We suspect that other factors, maybe the same factors that motivated the decision to by-pass their first-choice option, are responsible for this outcome. Perhaps not stretching themselves financially or staying closer home left these students with more resources to take and pass the bar sooner than they would have had they gone to their first choice school.

[54] Dale and at Krueger (2002) at 1494.

[55] We dropped law school GPA as a control. Our findings are qualitatively unaffected by the inclusion of law school GPA. See Web Appendix. There are a number of sound reasons to exclude law school GPA in this framework. See e.g, Daniel Ho forthcoming.

While there are important limitations to this type of analysis, the take-home point is that while there is evidence of a mismatch effect with regard to law school grades, there is not persuasive evidence of mismatch with regard to the more important outcome of actually becoming a lawyer. Indeed, with regard to becoming a lawyer, when we look at Figure 3, there is on net more evidence for a reverse mismatch.

C. "Stereotype Threat and Lift"

If not mismatch, then what explains black under performance in law schools? One possibility is stereotype threat. Sander offers an incorrect characterization of the way in which stereotype threat might affect law school performance: "[t]he widespread perception that blacks perform badly on such tests has produced a 'stereotype threat' among blacks that further hinders performance."[56] Sander's interpretation implies that black test-takers' initial poor performance on tests and their prior knowledge of blacks' poor performance as a whole hinders their performance. But stereotype threat is activated by the more subtle and pervasive mechanism of contending with situations in which one knows one can be viewed through the lens of a negative stereotype. It has little to do with expectations of poor performance and everything to do with the contextual environment that black law students face. "Stereotype threat follows its targets onto campus, affecting behaviors of theirs that are as varied as participating in class, seeking help from faculty, contact with other students in other groups, and so on."[57] Calling attention to context is important because Sander does little to account for the contextual effects of being a stigmatized group member in law school or the effects of racial diversity. The over-performance of black students at historically black schools seems particularly relevant here – but is largely ignored in Sander's analysis.

Sander does not so much deny the existence of stereotype threat; rather he dismisses it as intractable and hard to measure. "'Stereotype threat' does appear to exist, but it is hard to pin down how much of the black-white gap proponents believe it explains."[58] Evidence from the stereotype threat research suggests that it may explain a significant portion of the difference between white and black performance on difficult tests.[59] A related phenomenon, known as "stereotype lift" has also been identified – suggesting that whites overperform relative to blacks in situations where there are negative stereotypes about black—i.e., where whites are on the "upside" of a negative stereotype.[60] A review of studies employing modified SAT tests found, for instance, that "[s]tereotype lift produces a 50-point advantage for White men." [61] Together, stereotype threat and stereotype lift can potentially account for 150 points of the black-white SAT

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56 Sander at 419.
[57] Claude M. Steele, Expert Report of Claude M. Steele, 5 Mich. J. Race & L. 439, 445 (1999-2000).
58 Id. At 424.
[59] Walton and Cohen's mata-analysis working paper.
[60] Walton and Cohen show this effect using a meta-analysis of 43 studies based on "difficult tests," including English literature exams, Math and Verbal GREs and AP Calculus. Gregory M. Walton and Geoffrey L. Cohen, Stereotype Lift, 39 Journal of Experimental Social Psychology 456, 457-61 (2003). The mechanism through which stereotype lift operates is straight-forward: "By comparing themselves with a socially devalued group, people may experience an elevation in their self-efficacy or sense of personal worth, which may, in turn improve performance." As Walton and Cohen observe, this "boost in feelings of efficacy" may be "[p]articularly for difficult tests." Id. at 457.
[61] Id. at 463. "[A] performance boost that, at the most selective colleges, could make the difference between rejection and acceptance." Id.

score differences.[62] In other words, these phenomena can explain more than half of the black-white gap.[63]

Finally, relying on his incorrect interpretation of the phenomenon, Sander argues that stereotype threat is not relevant in legal writing classes because they allow for extended time to write memos and so forth,[64] yet the relative black underperformance is even greater in these classes.[65] Of course, stereotype threat properly understood could certainly be operative in this environment as well. Furthermore, there is research demonstrating that the way in which critical feedback is given to minority students on written assignments affects their perception of the instructor and their motivation to improve writing assignments.[66] One of the basic tenets of this research is the notion that receiving critical feedback is racially ambiguous and particularly ambiguous on difficult writing assignments. This is not a form of stereotype threat, but it is yet another demonstration of how contending with a negative stereotypes in school is consequential for minority performance.

While we are confident that affirmative action has not been demonstrated to be the dominant cause of black-white disparities in the chance of becoming a lawyer, we do not have a compelling theory as to what is causing the shortfall. But pursuing the possibility of "stereotype threat" and focusing on historically black schools – places where the miner's canary is healthier – is an important place to start.[67]

III. Maximizing the Probability That Black Students Will Become Lawyers

Even if we assume that Sander's theory is right, it does not tell us what type of affirmative action would maximize the number of black lawyers. In fact, the possibility that affirmative action reduces the number of black lawyers relative to a regime without racial preferences in fact might suggest that we would have more black lawyers if we affirmatively discriminated against black applicants in admission. In such a system, African-American students would have systematically better credentials than the average student at their school and, consistent with Sander's theory, would have higher law school grades as well as higher graduation and bar passage rates. Indeed, this elevated probability of becoming a lawyer is predicted at the left-hand side of the downward sloping curve in Figure 2. It would then merely be an empirical question of whether the

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[62] Stereotype threat is estimated to have roughly twice the magnitude of stereotype lift. Walton and Cohen at 464.

[63] The mean SAT gap is generally in the range of 160-200 points depending on the year and schools included, (see e.g., Alon and Tienda at 38, Table 3) though, of course, it might be higher at individual schools, in some cases approaching 300 points.

64 "[A]lmost all first-year students take legal writing classes, which are graded on the basis of lengthy memos prepared over many weeks, and which give students an opportunity to demonstrate skills entirely outside the range of typical law school exams." At 424.

65 Sander at 424 ("My analyses of first semester grade data from several law schools shows a slightly larger black-white gap in legal writing classes than in overall first-semester grade averages.").

66 Cohen, G.L., Steel, C.M. & Ross, L.D., The Mentor's Dilemma: Providing Critical Feedback Across the Racial Divide, 25 Personality and Social Psychology Bulletin1302 (1999).

67 See Lani Guinier & Gerald Torres, The Miner's Canary: Enlisting Race, Resisting Power, Transforming Democracy (2002).

higher probability of becoming a lawyer in a system of affirmative discrimination outweighed the lower probability of being admitted to a school.[68]

It turns out, however, that within Sander's methodology we can begin to give empirical content to the idea of identifying the regime that would maximize the number of black lawyers. Because of the substantial intra-racial tier dispersion for blacks with similar entering credentials (index scores), it is straightforward to measure for each index range which tier of schools gives blacks the highest probability of becoming lawyers. We can then see whether "probability maximizing" affirmative action would entail sending black students to higher or lower quality tiers.

Table 7 shows the results of just this exercise. We emphasize at the outset that this is merely a thought experiment, meant to demonstrate that even in Sander's framework, if one's objective is simply to maximize the probability that blacks become lawyers, it is not clear that neutral racial preferences is ideal. If, in this limited framework, we wanted to maximize the chance that black law students in the LSAC data would have become lawyers, we would have needed on net to engage in even more affirmative action. "Probability Maximizing" affirmative action would have sent 921 black students to higher tier schools then they actually attended, while sending 563 to schools in lower tiers. This movement would have created a bi-modal distribution. Indeed, of those students who would move up, a majority of would move to tier 6 elite schools. And of those students who would move down, a majority would move to tier 1 historically black schools.

This Table suggests in yet another way, contra to the mismatch hypothesis, that many black students would have had the highest probability of becoming lawyers if they had somehow managed to attend elite schools. But it also suggests that blacks with weaker entering credentials often do better at historically black schools than they do at tier 2 or tier 3 schools.

[Insert Table 7 here]

Now of course it also possible that the blacks in the LSAC data who actually attended tier 1 schools might have been different than those with identical index scores who went to lower tiers. These other qualities might explain not only why they got into the elite schools, but also why they became lawyers at such higher rates. But as emphasized above,[69] Sander cannot take this position because to do so would also undermine his claim that eliminating affirmative action would allow blacks to become lawyers at the same rate as whites with similar index scores. Again, we are skeptical that the index score captures all predictors of becoming a lawyer. But if it does, then it drives us to the conclusion that sending more African-American students to elite school would have increased the number of black attorneys.

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68 The possibility that affirmative discrimination might increase the number of black lawyers parallels a folk theorem that has long circulated at econ grad student happy hours. Sam Peltzman published regressions suggesting that mandating seatbelts may increase the number of traffic fatalities, because drivers who have preferences for a certain amount of risk would in the shadow of mandatory seat belt laws substitute toward driving more recklessly. But this tradeoff does not mean that we should stop simply with the repeal of safety belt laws. As Brad DeLong has blogged: "[I]f you want to buy Seatbelt Sam's argument and call mandatory seatbelt laws examples of harmful and counterproductive government red tape, you'd better stand up and advocate their reverse . . . the sharp spike in the middle of the steering wheel pointed at the driver's stomach." www.j-bradford-delong.net/movable_type/2003_archives/002587.html.

69 See supra at 8.

If we take Sander's methodology seriously, an effort to increase the number of black lawyers would, far from ending affirmative action, have required giving more of an affirmative action credit for more than half of blacks who attend law school. We estimated that the average credit necessary for those black students who have done better at higher ranking schools to be 92.6 index points (or an implicit LSAT credit of 5.87 on the 10-48 point scale that was in effect in 1991).

The impact of increasing the net amount of affirmative action (sending black students to their probability maximizing tier) would be to increase the number of black attorneys by a whopping 27%. 13.8% of this is due to moving blacks toward higher quality tiers in ways that are deeply inconsistent with Sander's analysis; 5.8% is due to moving blacks to historically black schools (movements that are equally consistent with non-mismatch theories), and only 2.6% of this increase is due to movements downward to tiers other than tier 1. In fact, we estimate that only 9.8% of black students would have done better if they had attended schools at lower non-historically black tiers.

Stepping back, we find that 57.5% of black law students in the LSAC data eventually passed the bar (relative to 83.2% of whites). Contra to Sander, we estimate that sending these blacks to the tier attended by the median white with the same entering credentials would have reduced the black probability of becoming a lawyer to 50.1% (see Table 1). Finally, we estimated that sending blacks to the probability maximizing tier would represent a net increase in affirmative action and increase the overall probability of blacks becoming lawyers to 73.1% (see Table 7).

IV. High-risk student analysis

But why should we care about what degree of affirmative action maximizes the number of black lawyers? The last section's analysis of "Probability Maximizing" affirmative action passed over this basic question. Sander is correct that proponents of affirmative action should care about how affirmative action impacts black law students. But caring solely about the impact of affirmative action on the raw total of black lawyers is surely an overly narrow measure of social welfare.

Indeed, a simple goal of maximizing the number of black lawyers would callously lead to mistreatment of black law students. There might be a group of 1000 potential black law students who only have a 1% chance of becoming lawyers. It might be unfair to require or hoodwink them into attending law school, but a simple "black attorney" maximizer would be happy to throw them into the fray to generate 10 additional black attorneys.

Instead of maximizing the number of black lawyers, a very different perspective is to assess whether some individual students are making an ill-advised decision to go to law school or to go to particular quality law school. This would be an attempt to characterize what a full-information equilibrium might look like. This task is really beyond our ability – because we do not have information on how much net of financial aid it costs law students to attend law school and we have no information on what their outside opportunities are.

Still Sander's empiricism suggests that law school for some students is a high risk proposition. It is Sander who shows that fully 34% of tier two black students fail to graduate from law school within 5 years (relative to just 13% of white tier two

students).[70] And it turns out that the problem of black risk is even larger and more widespread than suggested by Sander's article.

In this section, we focus on those students who on the first day of class have less than or equal to a 50% of becoming lawyers. Staying within Sander's paradigm, we calculate the probability of becoming a lawyer for specific index ranges at specific quality tiers, but unlike Sander, we allow the probability to differ for blacks and whites. For example, at tier 3 schools there were 44 blacks and 125 whites with indexes between 540 and 560. 69.6% of the white students became lawyers within five years of starting law school, but only 38.6% of the black students. It's reasonable to ask whether these 44 black students would have gone to law school if they had known that odds of becoming a lawyer were stacked against them.

When we undertake this analysis of the LSAC data, we find that virtually no whites entering law school are in the high risk category. Only 67 out of the 23,033 white law students – less than 0.3% – were in index/tier categories where there is less than a 50% chance of becoming lawyers. But proportionately far more entering blacks are in the high risk category. More than 42.6% of entering black law students had less than a 50% chance of becoming a lawyer within 5 years of entering law school.

In some sense our analysis is essentializing this 50% threshold. The 50% threshold arbitrarily picks a single point on the probability distribution and doesn't tell the shape of the distribution above or below this point. For example, it might simply be that 100% of entering whites have a 51% chance of becoming lawyers, while 42% of blacks have a 49% chance. But Figure 4 shows that the racial disparity in the entering probabilities of being lawyers is pronounced for a variety of different probabilities. The average white student has an 83.2% chance of becoming a lawyer, while the average entering black student has only a 57.5% chance; 16.9% of blacks have less than or equal to a 40% chance of becoming a lawyer; and 9.1% of entering blacks have less than a 30% chance – while virtually all (99.2%) of entering white students have more than a 60% chance.

[Insert Figure 4 here]

Now Sander's theory again would suggest that the dominant portion (if not all) of this risk is attributable to affirmative action. These black students are at high risk of not becoming lawyers because affirmative action caused them to be so woefully mismatched at the schools they choose to attend.

But Figure 5 rejects this prediction. Once again when we look at black students who attend law schools in the same quality tier as the median white student with the same

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70 See Sander, at Table 5.5. Entering students fail to become lawyers for three reasons: 1) they fail to graduate; 2) they fail to take the bar; and 3) they fail to pass the bar. There are important racial disparities in both the first and third categories. But we found roughly equivalent proportions of entering whites and blacks who graduated but failed to take the bar (7% and 9% for whites and black respectively). Using their incoming credentials and law school grades, we ran a regression predicting the probability that these students would have pass bar if they had taken it. We found that for blacks slightly more than half of them had a 75% or greater chance of passing the bar (most whites who didn't take the bar also had excellent chances of passing). Thus many of the people who graduated but failed to take the bar could have passed it. These graduates may have had alternative offers that they preferred and we should be wary about describing these graduates as failures. But controlling for these hidden success stories does not mitigate the racial disparities in pass rates. – as we find higher predicted passage rates for whites than blacks in this small category of non-bar-taking graduate.

entering credentials, we find that 57.8% of these students are at high risk (compared to 0% of the whites who attend the white median tier). But black students who go to a school above where the median white student with the same entering credentials attended are less at risk – only 29.0% of these students are at high risk. And only 12.2% of the black students who attended schools three tiers above where the median white student with their entering credentials attended were at high risk.

[Insert Figure 5 here]

As we saw before, in Figure 3 and Table 2, going to tiers above those attended by the median white with the same credentials reduces the risk of the law school enterprise. Figure 6 shows the proportion of blacks going to particular tiers who are in the high risk category. Again we see that attending higher quality tiers is less risky: only 6.1% of tier 6 blacks are in high-risk index categories, while 86.4% of tier 2 blacks are in index ranges that have less than a 50% chance of becoming lawyers.

[Insert Figure 6 here]

While Sander primarily argues that law schools should end (or scale back) their affirmative, his mismatch theory might also persuade individual blacks to forego offers from more prestigious schools where they will have lower entering credentials and therefore have a lower chance to become lawyers. But Figure 5 (like Figure 3 and Table 2) suggest that African-American students have not been making mistakes in accepting offers where affirmative action is the but-for cause of admission.[71] In the absence of incomplete information (or duress), people tend to make choice that increase their welfare. And these figures suggest that black students who have been choosing Yale or Stanford over Illinois are (contra to Sander's theory) not making mistakes.

But Sander's empiricism still has illuminated an important possibility that black students might not have chosen to attend any law school if they had known how risky it would have been. Indeed, returning to the empiricism behind the "maximizing probability" affirmative action analyzed in Table 7, we find that 19.6% of black students would still have less than or equal to a 50% chance of becoming lawyers – even if they had gone to a school in a tier that maximized their chance of becoming lawyers.[72] But Table 8 shows that eliminating these high-risk black students from law school, would still leave a net increase in black lawyers of 11.7%.

[Insert Table 8 here]

There is a superficial similarity between Sander's bottom line, and the analysis of Table 8. Sander argued that eliminating affirmative action would cause 14% fewer blacks to enter law school, but 8% more to become lawyers. Table 8 suggests that sending blacks to the probability maximizing tier but excluding those who have less than or equal to a 50% chance of becoming lawyers would lead to an even greater decrease in

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71 Goodwin Liu, A Misguided Challenge to Affirmative Action, http://www.latimes.com/news/opinion/commentary/la-oe-liu20dec20,1,1765172.story?coll=la-news-comment-opinions ("Sander's conclusion flies in the face of the most basic tenet of economics: that people act rationally to maximize their self-interest. Affirmative action has been with us for 30 years. Is it really possible that cohort after cohort of talented black students, lured by the siren of affirmative action, has incurred large debts and forgone other opportunities in order to attend top law schools — all on a misguided expectation of success?").

72 Sander notes that for the 14% of black students that we predicts would not attend law school in the absence of affirmative action, "fewer than a third become lawyers after multiple attempts at taking the bar." Sander, at 479.

the number of entering blacks (19.6% decline) and an even greater increase in the number of black lawyers (11.7% increase). But the distribution of blacks attending law schools under these competing visions is starkly different. While Sander's envisions a world where schools in the elite tiers would become largely all white, Table 8 envisions a world where better informed blacks would forgo attending schools in the middle tiers. In fact, tiers 3 and 4 are projected to lose 84.4% of their status quo black enrollment – as 19.6% of black law students choose not to attend law school and those that do attend prefer historically black schools or elite law schools to the status quo middle tier.

Of course, we do not know whether better informed students would actually choose non-attendance to risky attendance. We simply don't have enough information to judge whether this risky investment is still the best deal to town. It is also possible that black students are by and large well informed about the real risks of attending. African-American students might be likely to have heard about friends and relatives who started law school but never became lawyers – and such failures are likely because of loss aversion to be disproportionately salient.

But there are still structural reasons to worry that black law students may have difficulty assessing what the real risks we are. For one thing law schools to our knowledge never disclose race-specific graduation and bar passage rated. In fact, it is common practice for schools only to disclose generic graduation rates. If bar passage rates are disclosed, they are separate and also generic. So it becomes triply difficult for an African-American student with particular entering credentials attending a particular school to assess the risk of not becoming a lawyer.

What kind of information might be helpful to perspective black law students? Table 9 makes a preliminary attempt at an answer. Instead of the scalar indexes that Sander often uses, Table 9 provides a *Barrons*-like grid that indicates what tier school maximizes the chance that black students will become lawyers and tells them what that probability is. By construction, going to a school in another tier would expose the student to an even higher risk of not becoming a lawyer.

[Insert Table 9 here]

The shaded cells indicate entering credentials where black students regardless of tier have had less than or equal to a 50% chance of becoming lawyers. As mentioned before 19.6% of blacks in the LSAC data had entering credentials in these ranges. And 4 of the cells indicate entering credentials where African-Americans had less than a 30% chance of becoming lawyers (9.1% of African Americans had entering credentials with these index scores of this type). These students might have known about these risks and rationally decided to attend, but risks of this magnitude cry out for additional disclosure to make doubly sure that super high-risk students are making informed decisions.

The cells in Table 9 also report the relative tier of white median students with the same credentials. For example, black law students with a 2.75 undergraduate GPA and a 35 LSAT (under the old 10-48 scoring system) had the highest chance of becoming lawyers at tier 5 schools, even though the median white with these credentials went to tier 3. Contra to Sander's mismatch hypothesis, 33 of the 46 cells (where data was sufficient to calculate a probability maximizing tier) show that blacks would have had a better chance of becoming lawyers if they went to a law school at a tier above those attended by white median students with the same credentials. If we take out the 7 cells suggesting that blacks would do better going to historically black schools, we find that only 6 of the

46 cells indicate that blacks would do better going at or below the median white tier. As before, Table 9 mostly contradicts Sander's mismatch hypothesis.

While we reject Sander's conclusion that affirmative action has reduced the number of black attorneys, we are more sympathetic to his idea that there is a class of black law students who shouldn't have gone to law school. But while Sander bases his "shouldn't have gone" analysis on reduced acceptances in a world without affirmative action, we are more attracted to the possibility of reduced applications in a world where potential law students learn more about the risks of not becoming a lawyer. While Sander would have law school admissions offices close the door to these students, we would prefer to give high risk students better information so that they can decide whether this very non-diversifiable investment is worth the risk.

Conclusion

In the end, Sander should be given credit for bringing national attention to the substantial racial disparities in both law school grades and risk of becoming a lawyer. We affirm his conclusion that the median law grade of blacks is at the white 7 percentile. This response has even gone further to document the risk that many blacks were taking in going to law school. In accord with Sander, we have found that 42.6% had less than or equal to a 50% chance – while virtually no whites fell into this high risk category.

However, Sander's conclusion that these disparities are dominantly or solely caused by affirmative action does not withstand closer analysis. To the contrary, we have shown by looking at the actual achievement of blacks who go to the tier of the median whites with the same entering credentials that affirmative action mitigated these racial disparities and that even more affirmative action would have been likely to produce more black lawyers. We don't believe that we have definitively proved that more affirmative action would have increase the number of black lawyers. But our analyses of the "white median tier" and "first choice admissions" suggest that there is no compelling evidence that the system of affirmative action in place in 1991 reduced the number of black lawyers.

Sander's approach overstates the impact of affirmative action for two reasons. First, he overstates the grades that black students are likely to get even if they attended lower school. The weight of the evidence shows that African American with the same entering scores at the same schools earn lower law school grades. So to the extent that law school grades drive bar passage, ending affirmative action will not cure the bar passage deficit. Second, Sander interprets away the strong evidence that, holding entering credentials constant, students have a higher probability of becoming lawyers when they attend higher quality tiers.[73] He no doubt would suggest that students with the same entering credentials do better at more elite schools because they have hidden qualities that lead the better school to admit them.[74] But an alternative hypothesis is that they do better because of a reverse mismatch affect – where these students are pulled

[73] This can be seen Sander's own regression (Table 6.1) which shows a positive and statistically significant coefficient on the tier variable as well as in our own Table 2.

[74] There is an important difficulty here for Sander. When blacks go to a more selective school then whites with the same index score, he attributes this to racial preferences. When whites go to more selective schools than other whites with the same index score, he attributes this to unobserved quality differences.

along, inspired or challenged by their more competitive peers and teachers at elite schools, or pushed to success by the greater resources and stronger academic environment at more selective law schools.

But if affirmative action is not causing the racial disparities, what is? Proponents of affirmative action may be heartened with our tentative finding that, contra to Sander, affirmative action increases the number of black attorneys. But the policies that we have analyzed (1) of merely maintaining (or enhancing) affirmative action and (2) of providing better information for at-risk blacks are not sufficient to respond to shortfalls in black achievement that pervade the LSAC data. Why is it that black law students are 20 percentage points less likely to become lawyers than white law students with the same entering credentials attending the same tier schools? No responsible educator can ignore this question or fail to take action.

Figure 1
Proportion of Students Attending Relative Tier

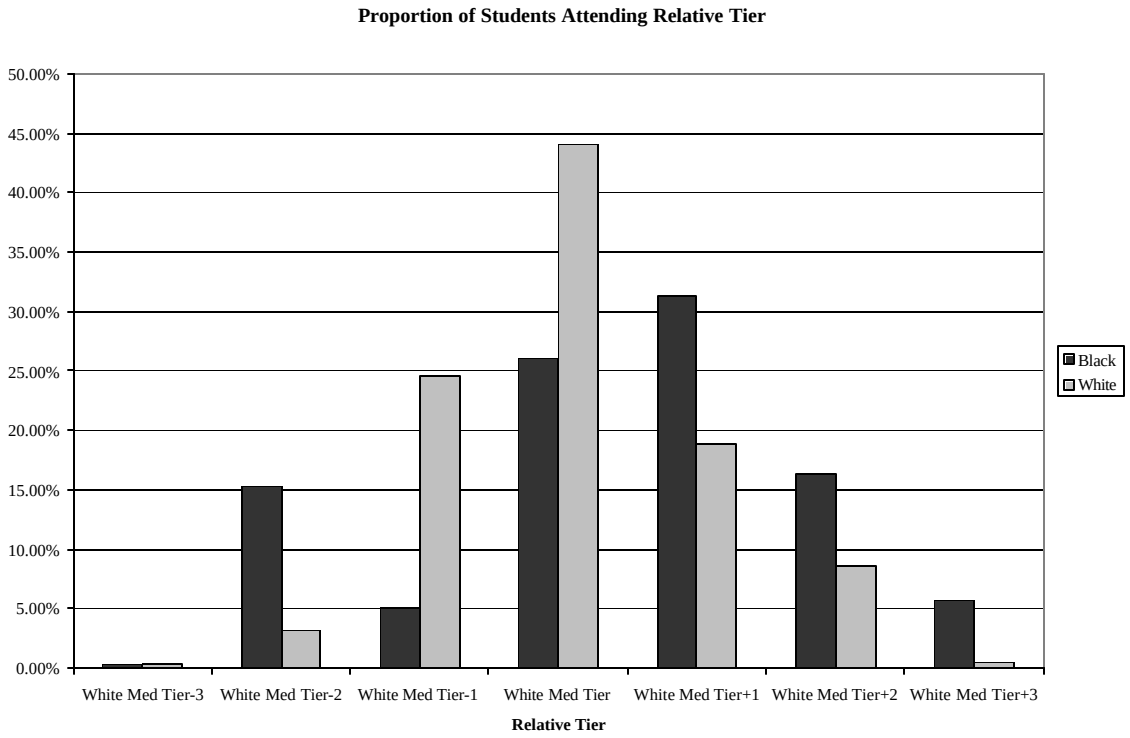

Table 1
Impact of the Elimination of Affirmative Action
on Black Law School Matriculation

Number of students moving to a higher tier	0
Number of students moving to a lower tier	929
Proportion of ups to downs	0
Probability of moving up	0
Probability of moving down	0.5373
Average move	-0.8207
Average move if up	0
Average move if down	-1.5274
Average implicit index credit	-38.4224
Average implicit LSAT credit	-2.4334
Average implicit index credit if down	-71.5096
Average implicit LSAT credit if down	-4.5289

Net Impact on Particular Tiers

	Before	After	Net change
Total in tier 1	285	314	29
Total in tier 2	82	77	-5
Total in tier 3	421	1205	784
Total in tier 4	523	126	-397
Total in tier 5	271	7	-264
Total in tier 6	147	0	-147
	1729	1729	0

Net Impact on Number of Black Lawyers Relative to Status Quo

5.8% decrease (with 5.2% of blacks not included in analysis)
12.7% decrease (if 14.1% of blacks are not admitted)

Notes: 1991 LSAC-BPS data. To create this table we first calculated the probability of becoming a lawyer for black students going to the white median tier for each index range, then we multiplied the number of black students in that index range attending schools at or above the white median tier by that probability. The total lawyers in this scenario is merely a sum of the number of black students at or above the white median tier for each index range times the probability of a black student becoming a lawyer at the white median tier for that index range plus a sum of the number of black students in each tier below the white median tier times their probability of becoming a lawyer at that particular tier and index range. We only calculated the probability of black students becoming lawyers at the white median tier if there were a minimum of five black students in that tier/index range combination. This means the above calculation does not include approximately 5.2% of the entering black students, all in the lowest index ranges (and all included in the bottom 14% of blacks). While we did not have sufficient numbers to calculate black probability of becoming a lawyer at the white median tier for the 1.7% of black students in the highest index ranges, we substituted white probability of becoming a lawyer at the white median tier.

Figure 2
Difference in Probability of Becoming a Lawyer
Under Sander's Scenario

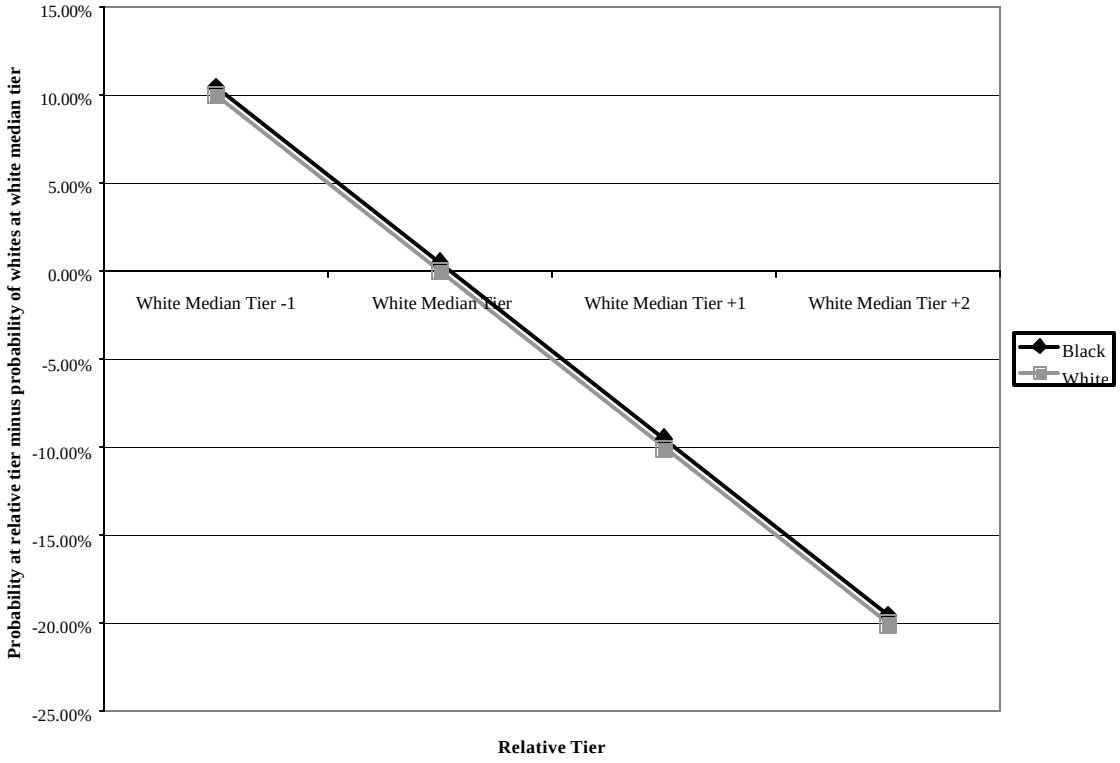

Figure 3
Actual Difference in Probability of Becoming a Lawyer

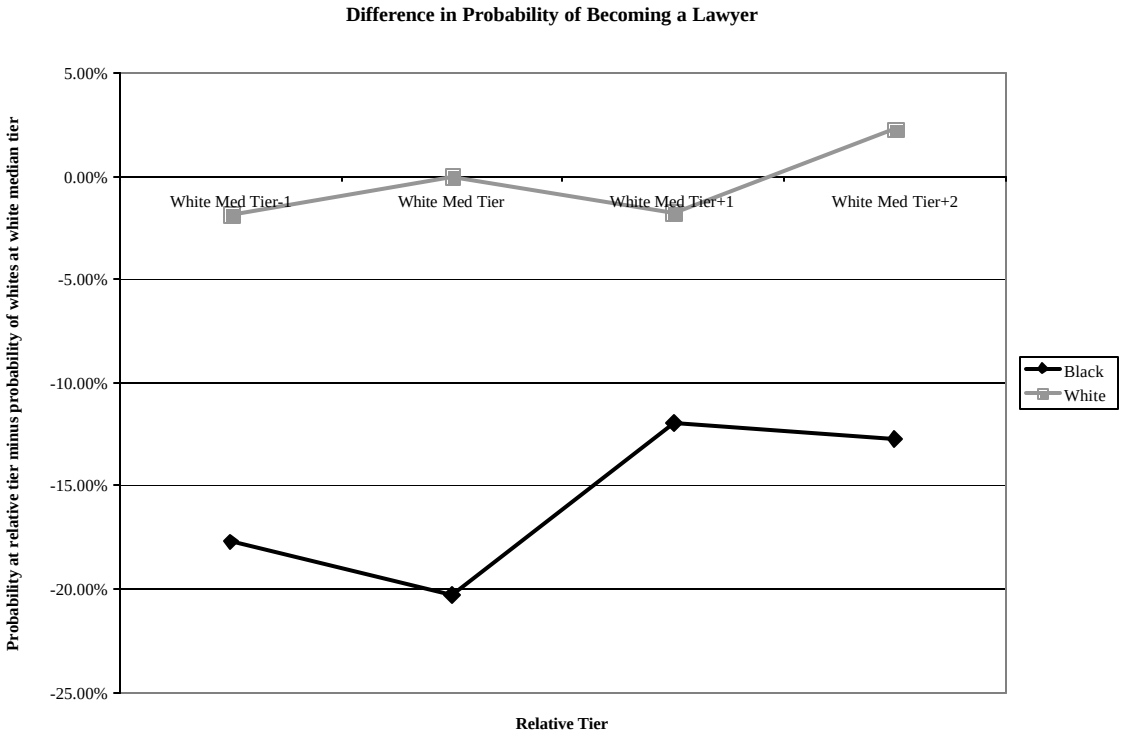

Table 2
Relative Tier Logistic Regression on the Probability of Passing the Bar
(Omitting Historically Black Schools)

Independent Variable	Coefficient	Z-Statistic
Index	0.0042	(24.56)*
Relative Tier	0.0551	(3.01)*
Relative Tier*Black	0.0989	(1.75)***
Relative Tier*Asian	0.1121	(1.41)
Relative Tier*Other	-0.0426	(0.42)
Black	-0.6873	(8.75)*
Asian	-0.3065	(3.48)*
Other	-0.2698	(2.24)**
Constant	-1.5755	(12.44)*
Observations	26,076	
Pseudo R2	0.0431	
Absolute value of z-statistics in parentheses.		
* Significant at 1%, ** Significant at 5%, *** Significant at the 10%		
Predicted Probabilities of Becoming a Lawyer		

Relative Tier	Black	White	Difference
-1	67.1%	81.8%	-14.6%
0	70.4%	82.6%	-12.1%
1	73.5%	83.3%	-9.8%
2	76.4%	84.1%	-7.7%
3	79.1%	84.8%	-5.7%
4	81.5%	85.5%	-4.0%
5	83.7%	86.2%	-2.5%
Average Tier Increase	2.8%	0.7%	

Notes: 1991 LSAC-BPS data. This is a logit regression. The dependent dummy variable is 1 if the student ever passed the bar and 0 if they did not (i.e. if they either did not graduate, did not take the bar, or took the bar but never passed it). White is the excluded race dummy variable. The index is a linear combination of a students undergraduate GPA and LSAT score normalized to a 1000 point scale. The relative tier for each student is the tier of the school that the student attended (where the most elite schools are coded as 6) minus the white median school for the index range of the student. The predicted probabilities are estimated at the mean index value of 747.

Table 3: Factors Associated with First-Semester Law School GPA, Comparing Sander's Model with Alternative Models

Independent Variable	Sander's Table 5.2	Model With Race Not Reported Imputed	Dummy Variable for Race Non-Reported	Model Without Race Not Reported
ZLSAT	0.383	0.360	0.364	0.331
	(25.98)*	(22.39)*	(24.46)*	(18.84)*
ZUGPA	0.212	0.198	0.201	0.200
	(14.92)*	(13.39)*	(14.17)*	(12.08)*
Asian	-0.007	-0.028	-0.025	-0.030
	(0.52)	(1.99)**	(1.75)	(1.86)
Black	-0.007	-0.041	-0.030	-0.041
	(0.48)	(2.57)**	(2.00)**	(2.35)**
Hispanic	-0.011	-0.035	-0.029	-0.038
	(0.79)	(2.40)**	(2.01)**	(2.30)**
Other Race	-0.021	-0.041	-0.040	-0.047
	(1.49)	(2.92)*	(2.82)*	(2.95)*
Race Not Reported			-0.103	
			(7.06)*	
Male	0.018	0.017	0.020	0.036
	(1.29)	(1.20)	(1.45)	(2.28)**
Constant	-0.008	0.028	0.065	0.053
	(0.38)	(1.20)	(2.69)*	(2.07)**
Observations	4258	4258	4258	3232
R-squared	0.19	0.19	0.20	0.18
Standard Coefficients Reported				
Absolute value of t statistics in parentheses				
*Significant at 1%, ** significant at 5%				

Notes: 1995 National Survey Data. These are OLS regressions. The dependent dummy variable is the standardized (z-score) law school grade of each student. ZLSAT and ZUGPA are school-specific z-scores for a student's LSAT and UGPA respectively. White is the excluded race dummy variable. Female is the excluded gender dummy. 219 of the surveyed students reported being Black. 43 of these respondents were from a historically black school. So only 176 out of 4258 observations were African-American students not attending a historically black school.

Table 4
Means of First Choice and Second or Lower Choice Attendees
(Conditional on Being Admitted to Two of More Law Schools,
Including First Choice)

Independent Variable	Asian	Black	Hispanic	White	Other
First-Choice Attendees					
Mean LSAT	37.06	30.94	34.63	38.58	35.30
	(5.59)	(5.85)	(5.65)	(4.77)	(6.75)
Mean UGPA	3.27	2.99	3.16	3.36	3.28
	(0.41)	(0.43)	(0.40)	(0.39)	(0.42)
Observations	153	353	279	4,244	84
Percent of Total	75%	72%	81%	85%	68%
Second or Lower Choice Attendees					
Mean LSAT	35.59	30.62	33.52	38.79	34.63
	(4.82)	(5.08)	(5.24)	(4.31)	(5.90)
Mean UGPA	3.24	3.05	3.15	3.37	3.22
	(0.50)	(0.40)	(0.40)	(0.39)	(0.46)
Observations	51	137	66	746	39
Percent of Total	25%	28%	19%	15%	32%
Total observations	204	490	345	4,990	123
Standard deviations in parentheses.					

Notes: 1991 LSAC-BPS data. This table analyzes students who reported that they were admitted to their "first or only choice" and also reported that they were admitted to more than one school. In this group, "first choice attendees" reported that they attended their first choice school and "second or lower choice attendees" reported that they did not attend their first choice school.

Table 5: Unstandardized OLS Coefficients Predicting First-Year Law School GPA, Using First Choice and Second or Lower Choice Attendees (Conditional on Being Admitted to Two of More Law Schools, including First Choice)

Independent Variable	Whole Sample	Black Sub-Sample	White Sub-Sample
Asian	-0.418		
	(6.47)*		
Black	-1.043	1	
	(24.25)*		
Hispanic	-0.616		
	(3.58)*		
Other Race	-0.191		
	(1.90)		
Male	0.008	-0.011	-0.005
	(0.34)	(0.13)	(0.18)
Tier	-0.047	-0.271	-0.007
	(4.60)*	(9.45)*	(0.59)
Second Choice	0.302	0.139	0.326
	(9.63)*	(1.52)	(9.16)*
# Schools Applied	-0.036	-0.024	-0.033
	(8.59)*	(1.57)	(7.14)*
Constant	0.499	0.273	0.373
	(10.46)*	(2.01)**	(7.08)*
Observations	6116	487	4959
R-squared	0.12	0.18	0.03
Absolute value of t statistics in parentheses			
* Significant at 1%, ** Significant at 5%			

Notes: 1991 LSAC-BPS data. These are OLS regressions run on observations for students who reported that they were admitted to their "first or only choice" and also reported that they were admitted to more than one school. White is the excluded race dummy variable. Female is the excluded gender dummy variable. "First choice attendee" is the excluded school choice dummy variable. "Second choice" equals 1 if student reported that he or she did not attend her first choice school.

Table 6: Odds-Ratio from Logistic Regressions Predicting Bar Passage within Five Years of Beginning Law School, Using First Choice and Second or Lower Choice Attendees (Conditional on Being Admitted to Two of More Law Schools, including First Choice)

Variable	Whole Sample	Black Sub-Sample	White Sub-Sample
LSAT	1.175	1.203	1.143
	(11.80)*	(6.41)*	(6.71)*
UGPA	2.602	2.325	3.150
	(5.91)*	(2.60)*	(5.20)*
Asian	0.696		
	(1.21)		
Black	0.673	1	
	(2.21)**		
Hispanic	0.737		
	(0.39)		
Other Race	1.274		
	(0.45)		
Male	1.081	1.450	1.101
	(0.59)	(1.34)	(0.54)
Tier	0.888	0.802	0.972
	(1.97)**	(2.04)**	(0.31)
Second Choice	1.084	1.175	0.959
	(0.47)	(0.53)	(0.17)
# Schools Applied	0.996	1.075	0.971
	(0.17)	(1.48)	(1.03)
Observations	6116	487	4959
Absolute value of z statistics in parentheses			
*Significant at 1%, **Significant at 5%			

Notes: 1991 LSAC-BPS data. These are logistic regressions run on observations for students who reported that they were admitted to their "first or only choice" and also reported that they were admitted to more than one school. White is the excluded race dummy variable. Female is the excluded gender dummy variable. "First choice attendee" is the excluded school choice dummy variable. "Second choice" equals 1 if student reported that he or she did not attend her first choice school.

Table 7: Optimal Redistribution of Black Law Students
Using the White Median Tier Analysis
(Bar Passage Probability Maximizing Affirmative Action)

Number of students moving to a higher tier			921
Number of students moving to a lower tier			563
Proportion of ups to downs			1.6359
Probability of moving up			0.5134
Probability of moving down			0.3138
Probability of moving to tier 6 if up			0.5049
Probability of moving to tier 1 if down			0.6892
Average move			0.3785
Average move if up			2.1683
Average move if down			-2.3410
Average implicit index credit			15.1581
Average implicit LSAT credit			0.9600
Average implicit index credit if up			92.6127
Average implicit LSAT credit if up			5.8654
Average implicit index credit if down			-102.8660
Average implicit LSAT credit if down			-6.5148
Net Impact on Particular Tiers			
	Before	After	Net change
Total in tier 1	318	480	162
Total in tier 2	102	150	48
Total in tier 3	437	65	-372
Total in tier 4	535	207	-328
Total in tier 5	265	356	91
Total in tier 6	137	536	399
	1794	1794	0
Net Impact on Number of Black Lawyers Relative to Status Quo			
27.0% increase			

Notes: 1991 LSAC-BPS data. To create this table we first determined the tier where black students had the highest probability of becoming a lawyer for each index range, then we multiplied the number of black students in that index range by that probability. The total lawyers in this scenario is merely the number of black students in each index range times the probability of a black student becoming a lawyer at the probability maximizing tier for that index range. We only included a maximum probability if there were more than five students in a given tier/index range combination. Some index ranges were omitted due to the fact that none of the tiers in those index ranges had more than 5 students.

Figure 4
Proportion of Students at Various Probabilities of Becoming a Lawyer

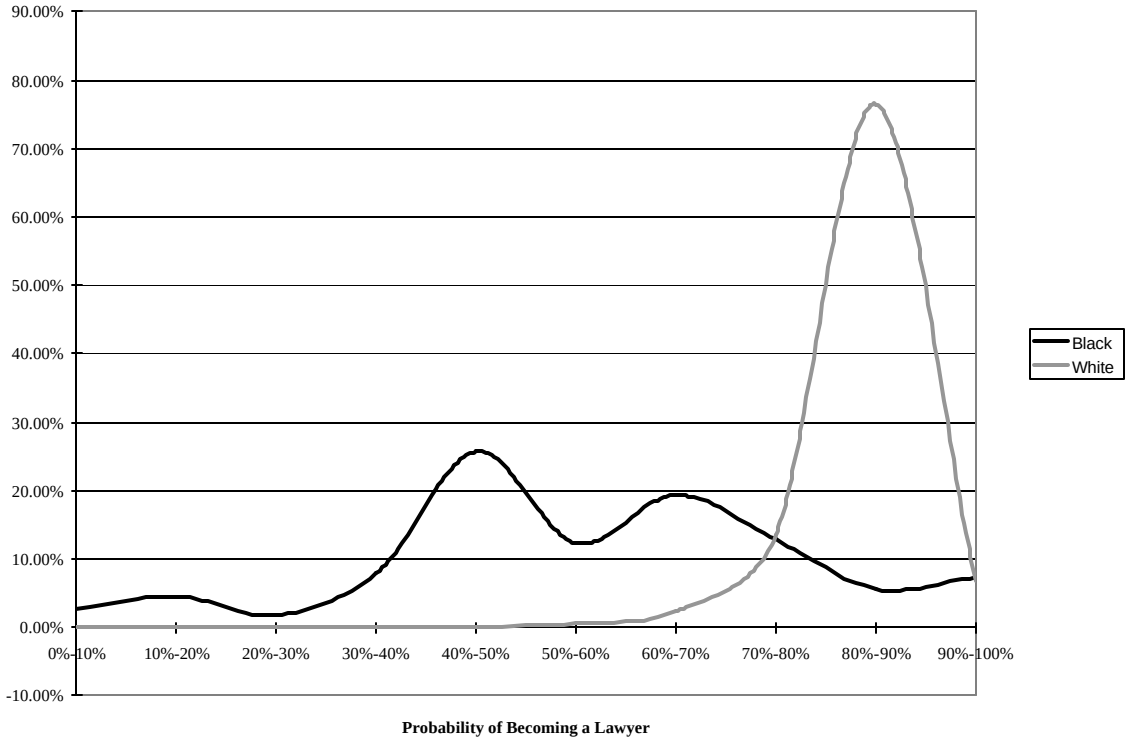

Figure 5
Proportion of Black Students in Relative Tier with Less Than or Equal to 50% Chance of Becoming a Lawyer

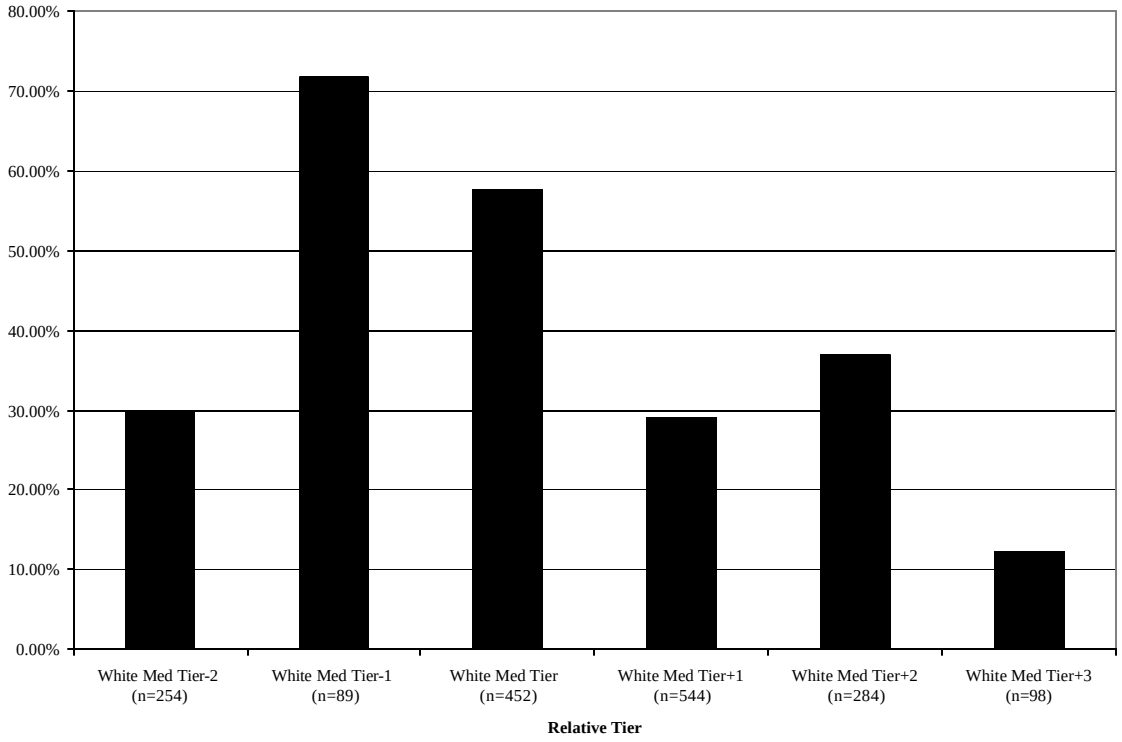

Figure 6
Proportion of Black Students in Tier with Less Than or Equal to 50% chance of Becoming a Lawyer

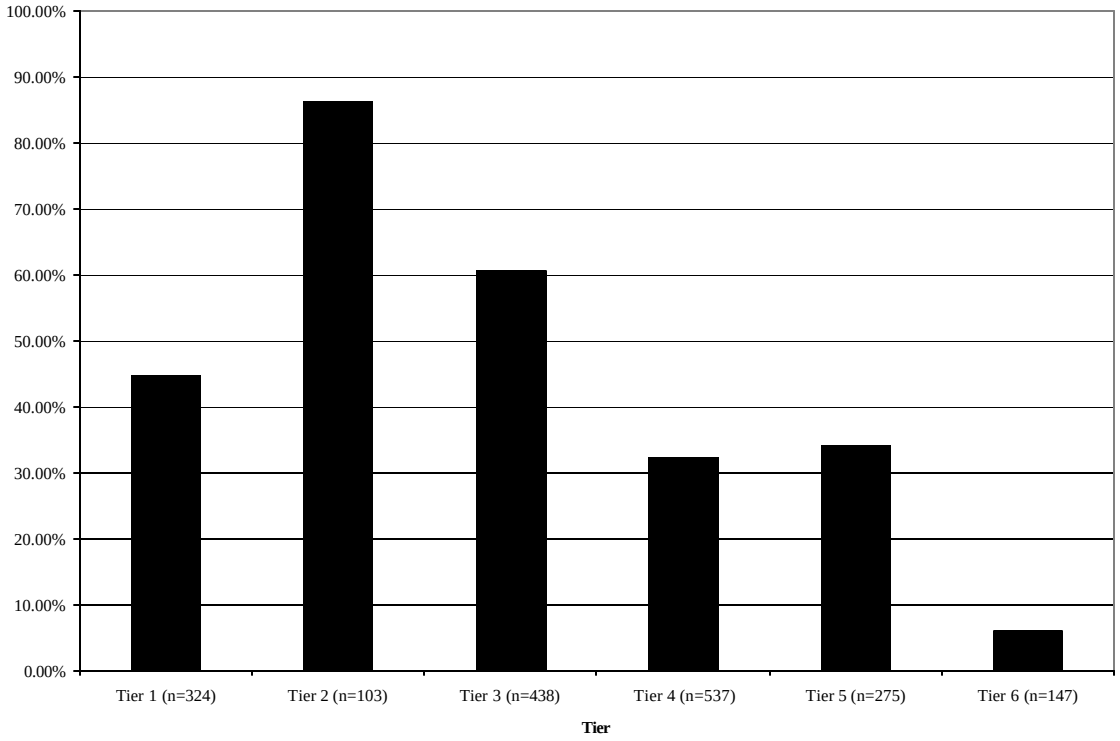

Table 8: Impact on the Number of Black Law Students
When those with Less Than a 50% Chance of Passing the Bar are Dropped

Number of students moving to a higher tier			703
Number of students moving to a lower tier			477
Number of students not attending			351
Proportion of ups to downs			1.473795
Probability of moving up			0.391862
Probability of moving down			0.265886
Probability of not going			0.195652
Probability of moving to tier 6 if up			0.661451
Probability of moving to tier 1 if down			0.794549
Average move			0.250173
Average move if up			2.207681
Average move if down			-2.49686
Average implicit index credit			10.92957
Average implicit LSAT credit			0.692203
Average implicit index credit if up			95.83683
Average implicit LSAT credit if up			6.069634
Average implicit index credit if down			-108.18
Average implicit LSAT credit if down			703
Number of students moving to a higher tier			477
Net Impact on Particular Tiers			
	Before	After	Net change
Total in tier 1	318	461	143
Total in tier 2	102	50	-52
Total in tier 3	437	0	-437
Total in tier 4	535	152	-383
Total in tier 5	265	244	-21
Total in tier 6	137	536	399
	1794	1443	-351
Net Impact on Number of Black Lawyers			
(when those with probability of less than or equal to 50% are dropped)			
11.7% increase (20.6% of blacks do not attend)			

Notes: 1991 LSAC-BPS data. Table 8 is calculated the same way as table 7, except it is assumed that students in index ranges where the maximum probability is less than or equal to 50% do not attend law school.

Table 9
Full Information Grid

UGPA \ LSAT	15	20	25	30	35	40	45
3.75	2 66.67% -1	4 56.41% +1	6 100.00% +3	6 91.67% +3	4 100.00% +0		
3.5	4 28.57% +3	5 50.00% +2	6 85.71% +3	5 85.00% +2	5 93.75% +1	6 100.00% +2	
3.25	3 50.00% +2	1 55.56% -2	1 68.18% -2	6 100.00% +3	1 100.00% -2	6 100.00% +2	
3	1 20.00% -1	2 66.67% -1	4 56.41% +1	6 100.00% +3	6 91.67% +3	4 100.00% +0	
2.75		4 28.57% +3	5 50.00% +2	6 85.71% +3	5 85.00% +2	5 93.75% +1	6 100.00% +2
2.5		3 50.00% +2	1 55.56% -2	1 68.18% -2	6 100.00% +3	6 66.67% +3	6 100.00% +2
2.25		3 50.00% +0	2 50.00% -1	1 70.37% -2	6 100.00% +3	6 91.67% +3	4 100.00% +0
2			4 28.57% +3	5 50.00% +2	6 85.71% +3	5 85.00% +2	5 93.75% +1

Note: 1991 LSAC-BPS data. The top number in each cell is the probability maximizing tier, the middle number is the probability at the probability maximizing tier and the bottom number is the difference between the probability maximizing tier and the white median tier.