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Issue Brief

Does Affirmative Action Lead to "Mismatch"? A Review of the Evidence

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Introduction

Many selective American universities practice affirmative action: they admit African-American students and, to a lesser extent, Hispanic students who would not have made the cut if they had been white or Asian-American. This practice has long been legally and morally controversial, as it constitutes racial discrimination and would appear to violate the plain terms of federal law. (No school receiving federal funds may deny participation or benefits "on the ground of race, color, or national origin.")[1] The Supreme Court is very likely to curtail or ban the practice.

But affirmative action also presents an empirical question: When students are admitted through admissions preferences—especially when the preferences are large and the students pursue demanding fields of study—do they benefit from going to a more selective school? Or, instead, do they suffer from being "mismatched" with their peers—falling behind, becoming frustrated, receiving low grades, and sometimes switching to easier majors or dropping out? This brief will survey some of the most influential research on this question in order to give a bird's-eye view of the debate.

My review of the evidence is assuredly *not* comprehensive, and it naturally involves judgment calls about which studies to include. But it includes major findings from respected researchers both "for" and "against" mismatch theory. The research is mixed but generally consistent with a framework in which mismatch *can* be a problem, but is not always, depending on such factors as how severely a student is out of step with his peers and how demanding his academic program is.

Liberals should not turn a blind eye to the possible harm to students who are admitted to programs for which they are unqualified—especially at more selective schools, given the magnitude of the preferences they offer, and especially in the most rigorous and unforgiving fields. Conservatives, meanwhile, should not assume that *all* preferences harm their beneficiaries. Both

sides should support efforts to give students more information about the schools that they're accepted to, including the graduation and career outcomes typical for students with their level of academic preparation.

The Extent of Racial Preferences

Affirmative action exists and makes a large difference in which schools minority students are able to attend. This should not be surprising—given that colleges have fought lawsuits to the Supreme Court to defend their use of race—but it is worth providing some concrete numbers.

At less selective schools, which, by definition, reject few applicants, there is limited space for race to make a difference in those decisions. (As of 2017, about a quarter of four-year colleges rejected, at most, one in five applicants, while about a third rejected half or more.)[2] At strongly selective schools, the situation is quite different. If these schools ignored race and admitted students solely on academic credentials, black and Hispanic students would be substantially underrepresented there, given racial gaps in those credentials.

The preference policies of one school, however, affect the decisions made by other schools. If some schools use preferences to admit black and Hispanic students who otherwise would have gone to other—usually somewhat less selective—schools, that puts pressure on those other schools to use preferences to restore their racial balances as well.

Several studies show that preferences are quite large at many colleges, though schools do not make it easy to access the needed data. Thomas J. Espenshade and Alexandria Walton Radford once estimated that, in one group of selective schools as of 1997, public institutions gave preferences to black applicants worth 3.8 ACT points, while Hispanics got a boost of 0.3 points and Asians were *dis*favored, to the tune of 3.4 points. At private colleges, they measured the difference in SAT points: a 310 point boost for blacks, 130 for Hispanics, and a 140-point *penalty* for Asians.[3] Other analyses have shown that, within a given selective school, blacks tend to have much lower academic credentials than whites—frequently in the range of 100 to 200 SAT points, four or five ACT points, and one- to four-tenths of a GPA point.[4] However, such gaps are not necessarily entirely driven by preferences. (If a school uses the same credential cutoff for all racial groups, but groups of applicants have different distributions of credentials, there can still be differences in average credentials across admitted students from different racial groups.)

Most recently, Peter Arcidiacono and two coauthors documented the extent of preferences at the University of North Carolina (UNC) and Harvard, using statistical models based on information obtained from the schools through the pending lawsuits challenging their affirmative-action policies.[5] At Harvard, blacks get a fourfold increase in their chances of admission. At UNC, black applicants get a 70% increase if they're in-state and a more than 10-fold increase if they're applying through the far more competitive out-of-state pool.

Arcidiacono was an expert witness for the plaintiffs in these cases, but in court documents, the schools' own experts admitted that race was a substantial factor in admissions. Harvard's expert produced fairly similar estimates of the boost for African-Americans, while disputing claims that Harvard discriminated against Asians.[6] UNC's expert presented models of the school's overall admissions process, suggesting that, statistically, race drove up to 5.6% of it.[7] That number is tricky to interpret, of course—if up to 5.6% of the whole process constitutes the boost given to underrepresented minorities, how big must those boosts be, exactly? (In his rebuttal, Arcidiacono noted that, per the defense's own modeling, "*more than 40% of Hispanic admissions and more than 50% of African-American admissions are the result of racial preferences*.")[8]

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Arcidiacono et al. also found that, at Harvard, white students from a disadvantaged background receive a modest boost, but the school appears to treat rich and poor black applicants roughly the same. One way to frame the policy, then, is that it disproportionately helps rich blacks because they get a bigger boost than poor blacks relative to what they'd get if they were white. (Rich blacks would lose their entire preference if they were white, while poor blacks would trade their race preference for a smaller, but still substantial, class preference.) Alternatively, one can think of the policy as giving black students the biggest preference for which they're eligible—the race preference—but with additional preferences not "stacking" on top of that.

Why would Harvard not want to give a class preference on top of a race preference for black applicants, given that poor blacks might be considered the single group most in need of help?[9] Perhaps the school is concerned that if a student is too far out of step with his peers academically, he might not be able to succeed at Harvard. This might also help explain why UNC gives bigger racial boosts to out-of-state applicants—that pool is far more competitive, so the school can give larger preferences there before it starts admitting students who are a poor fit.

The Mismatch Theory

Everyone clamors to get in to the best, most selective, colleges. So why might we expect some students to do worse there? When a student is placed among significantly more qualified peers, several bad outcomes can result.

For example, since a student's qualifications at entry tend to predict his later grades, severely mismatched students will tend to cluster toward the bottom of their college classes, which could have a demoralizing effect. Indeed, the tendency of students who receive large preferences to fall low on *within-school* measures such as class rank is an effect of mismatch that is generally not disputed.[10] As mismatch skeptics Ian Ayres, Richard Brooks, and Zachary Shelley sensibly wrote in a recent paper, "one should not be too surprised if a student with incoming credentials substantially below the mean of their classmates performs less well than their peers in tasks predictably correlated with those incoming credentials."[11]

In addition, classes in rigorous fields at top schools often move quickly, with professors simply assuming that students have the background knowledge and abilities needed to keep up. Mismatched students may fall behind, and thus end up learning less than they might have at a less demanding school. Overwhelmed, they might also switch to an easier major or drop out entirely. Virtually everyone agrees that such effects would be expected at *some* level of unpreparedness. Another mismatch skeptic, Matthew M. Chingos, notes: "One would not expect a barely literate high school dropout to be successful at a selective college; admitting that student to such an institution could cause them to end up deep in debt with no degree."[12]

At the same time, it is theoretically possible that there would be benefits for mismatched students—at least, for students closer to their peers than in that deliberately extreme hypothetical. A student might work extra hard to keep up with peers who excel—or be willing to work harder to earn the fancier credential offered by a more selective school. More selective schools might offer better teaching in general or superior remedial efforts. Further, schools with selective admissions practices are not always difficult to graduate. To the contrary, more selective schools tend to have relatively *high* graduation rates. Indeed, this is another point of widespread agreement: even Richard Sander, the leading proponent of the mismatch theory, has noted that "many elite schools now graduate virtually all of their students, almost regardless of performance."[13]

It is also important to note that mismatched students are self-selected—they choose to go to schools where most students have higher qualifications than their own, believing that they are up for the challenge—or, at least, that the risk of failure is worth it for the chance at a superior credential. Students deciding where to apply to school can very easily look up any school's typical SAT and ACT scores.[14] A student does not show up at Yale and only then realize that most other students achieved higher test scores than he did.

However, as one study relying on a survey of Duke students[15] showed, when it comes to predicting future grades, a simple statistical model based on students' incoming qualifications does a better job than the students themselves when asked how they think they'll perform. Such models also did a good job of predicting which students would leave more difficult majors (which students also chose themselves, of course, presumably believing that they could graduate in those majors). In other words, some schools know—or could know, if they ran the numbers—that some students' chances of failure are higher than they themselves believe.

Richard Sander and the Debate over Law Schools

Several thinkers had floated the idea of mismatch during the 20th century, and there was even some research into related topics, but it was Richard Sander's blockbuster 2004 article in the *Stanford Law Review*[16] that first put forth a comprehensive argument rooted in empirical data. Sander, perhaps unsurprisingly, focused on legal education, which is famously difficult, with access to the legal profession ultimately guarded by the bar exam. If a student doesn't keep up and learn the material, it matters, and there's simply no masking it.

Sander used a data set called the Bar Passage Study (BPS), an enormous effort to track the cohort of students who entered law school in 1991. The data set includes variables such as race, LSAT score, undergrad grades, law-school graduation, and, of course, bar passage (including number of failed attempts). Unfortunately, however, to protect respondents' privacy, the law schools themselves were not identified individually—or even anonymously—but instead crudely grouped into "tiers" that only loosely reflected their quality. Law-school GPA was available in a form standardized by school, so that researchers could see how each student ranked relative to his actual peers, but the same was not true for some other key variables.

This imprecision makes it difficult to measure mismatch. We might want to say that a student is mismatched if he has an LSAT significantly below those of his peers, but for the purposes of the BPS, one's "peers" are all the students in the entire tier, not just a student's actual, well, peers. Many students will be more or less mismatched within their school than they are within the tier as a whole, and the resulting measurement error would be expected to reduce the size of any measured effects.

There is another big source of measurement error in the BPS: when making admissions decisions, the schools had access to some information (from students' full applications) that was not included in the study. Even accounting for hard metrics such as LSAT scores and undergraduate GPAs, some students may not be as mismatched as they appear because other qualifications, visible to the schools but not to the researchers, might have led the higher-tier schools to accept them.

Sander's logic—based on analysis of these data, coupled with some generous interpretive steps—went as follows.

Except at historically minority schools (which get their own tier in BPS data), black students cluster overwhelmingly at the bottom of their classes in terms of first-year GPA. In each of the other five tiers, in fact, about 45%–50% of all black students rank in the lowest *tenth* of their freshman classes. The gap disappears, however, in a statistical model that controls for LSAT scores and undergraduate GPA. In other words, taking this model at face value, black students would do just as well as their white peers at the same schools *if they had the same academic credentials*. They do worse in practice, on average, because they have lower credentials than their peers, which is largely due to affirmative action.

Sander used additional models to gauge the relative importance of two factors—law-school *eliteness* and law-school *grades*—to the outcome variables: graduation and bar passage. Going to a law school in a more elite tier was correlated with improved outcomes, but worse grades within one's law school were correlated with worse outcomes. This implies a difficult trade-off for a student who has been accepted to an elite school but is likely to get subpar grades there—especially since he would likely get better grades at a lower-tier school. Once again, race in and of itself was not the important thing: blacks and whites performed similarly *if* they were similar on all the other variables.

Sander's single most striking suggestion was that affirmative action might reduce the number of black lawyers. Without affirmative action, some blacks wouldn't get in to law school at all, but others would go to less selective schools and—crucially—get better grades. Since race by itself doesn't seem to make any difference, he reasoned, black students would likely get the same grades, and pass the bar at the same rates, as whites with the same LSAT scores and undergraduate GPAs. This would be a huge improvement.

There were 3,474 black matriculants to law schools in the BPS. Sander estimated that, without racial preferences, this number would have fallen to 2,983. But the number of black students passing the bar on their first attempt would have risen from 1,567 to 1,896, and the number *eventually* passing the bar would also have risen slightly, from 1,981 to 2,150. In the meantime, many students who wouldn't have been able to pass the bar anyway would have been spared the expense of law school.

In the nearly two decades since, Sander's work has provoked numerous responses and counterresponses, including (but hardly limited to):

- Ian Ayres and Richard Brooks took a different approach to BPS data.[17] They found that, even when black and white students *do* have the same credentials and attend the same schools, black students are less likely to pass the bar, which, if accurate, throws off Sander's (admittedly simplistic) calculation of how the number of black lawyers would change without affirmative action. They further found that black students sometimes become *more* likely to pass as they attend higher-ranked schools than those that a similar white student would typically attend. Last, they compared black students attending their first-choice school with those who were *accepted* to their first-choice school but ended up attending their second choice. The latter students, who often made their decision for reasons of money or geography, are presumably less mismatched, but they were no more likely to pass the bar within five years of graduating. However, this analysis did produce some evidence of mismatch effects on *first-time* bar passage and (unsurprisingly) first-year grades.

- Daniel E. Ho also reanalyzed BPS data, matching students in different tiers based on their characteristics rather than controlling for those characteristics statistically.[18] Ho found: "While it is true that similarly qualified black students get lower grades as a result of going to a higher-tier school, they perform equally well on the bar irrespective of law school tier."

- In a number of venues, over the course of more than a decade, Sander has gone back and forth with Ayres, Brooks, and Ho. Most notably, in a 2019 paper,[19] Sander replicated both the studies above—with some corrections and tweaks to the analyses—and argued that even his opponents' methods, when implemented in a different (and, in his view, improved) way, produced evidence of mismatch. This, naturally, spurred another round of responses.[20]

- In 2013, Doug Williams published yet another study[21] based on BPS data, assessing a wide variety of outcomes using numerous statistical approaches. Some results were statistically insignificant, but as Williams himself summarized it, he found "much more evidence for mismatch effects than previous research."

- In 2016, Peter Arcidiacono and Michael Lovenheim surveyed the existing literature.[22] "The evidence suggesting that shifting African Americans to less selective schools would increase bar passage rates," they wrote, "particularly for first-time passage, [is] fairly convincing." They also noted the limitations of the data: on the one hand, that mismatch is visible even in such flawed data makes the work of Sander et al. particularly compelling; on the other hand, the data might be "too noisy and provide sufficiently imprecise information on actual law-school quality that they preclude one from drawing any concrete conclusions regarding mismatch."

- In yet another paper,[23] which provoked still *more* responses,[24] Sander and Robert Steinbuch acquired data from three specific schools, which mitigates the lack of school identifications in BPS data (not to mention that the BPS cohort now entered law school more than three decades ago). They again found that a student's degree of mismatch with his peers correlated with a lower chance of first-time bar passage, even after accounting for other factors, such as LSAT scores.

Clearly, this has been a lively debate, and some experts reject the idea of law-school mismatch almost entirely. More comprehensive and recent data could probably deliver more precise and up-to-date answers. But Sander and others have shown, at minimum, that many reasonable approaches to the available data produce evidence of substantial mismatch effects, despite the data limitations making such effects hard to find. It seems likely that the most aggressive preferences at law schools reduce black bar-passage rates, especially for first-time passage.

Is There Mismatch at the Undergraduate Level?

In general, we might expect mismatch to be less of a problem at the undergraduate level than it is in law schools. Although law students as well as undergraduates who are admitted through preferences will probably receive lower grades than their peers, undergraduate education tends to be less demanding, and postgraduate employment is not usually contingent on anything resembling the bar exam. Three outcomes have been the focus of special attention: graduation, switching out of difficult majors and into easier ones, and postgraduation outcomes such as income.

Graduation

Several studies have found that, after statistically controlling for entering characteristics, students are at least as likely to graduate if they attend more elite schools—indeed, often more so. As discussed above, there are numerous possible explanations for this. These schools have high graduation rates overall; their degrees are more valuable on the job market (thus providing a bigger incentive to graduate); they generally offer some majors that are reasonably manageable,

even for students without exceptional academic skills; and they make efforts to keep students who fall behind on track. Thomas J. Espenshade and Alexandria Walton Radford's book-length study *No Longer Separate, Not Yet Equal*[25] contains a particularly detailed model showing, if anything, improved graduation rates for similar students at more selective colleges.[26]

California's Proposition 209, enacted in late 1996, which abruptly banned affirmative action at public schools and thus created a sort of natural experiment, has also served as a tool for researchers. However, other things were changing for California public schools around the same time, such as the rising reputation of universities such as UCLA, which affected the system's applicant pool, as well as a preexisting trend toward higher minority graduation rates. Some analyses have suggested that, while underrepresented-minority students "cascaded" to lower-tier schools after affirmative action was banned, they became more likely to graduate.[27] However, the most recent and thorough study of the change—from Zachary Bleemer, using data more comprehensive than was previously available—finds that "applicants' undergraduate and graduate degree attainment declined ... especially among lower-testing applicants."[28]

This doesn't rule out graduation effects entirely, of course; they may well exist, especially for specific subsets of students. Further, much like Sander's work, Bleemer's paper has garnered resistance from mismatch proponents (including Sander himself, who pointedly noted that the data underlying Bleemer's paper were not public and had not been shared with skeptical researchers.)[29] Nonetheless, between the generally high graduation rates of elite schools and several plausible findings suggesting that affirmative action could *improve* graduation prospects, reducing overall minority graduation rates appears to be one of the less likely ill effects of mismatch.

Major Switching

It is also possible that graduation rates are not affected because mismatched students instead respond by switching their majors. A demanding program in a rigorous subject might refuse to graduate students who cannot do the work, and students who realize they're likely to fail will presumably evaluate their other options. Staying enrolled in the same selective school, but pursuing a less demanding field of study, may be an attractive option.

One ripped-from-the-headlines testament to the pressures involved comes from a school that does *not* offer easy majors to students who fall behind: the Massachusetts Institute of Technology. When MIT recently reinstated its standardized-testing requirement for applicants (which had been suspended as a Covid measure), an official at the school explained that *all* MIT students "must pass two semesters of calculus, plus two semesters of calculus-based physics," which entail "long, challenging final exams"—and that "our ability to accurately predict student academic success at MIT is *significantly* improved by considering standardized testing."[30] In other words, MIT needs standardized tests to avoid mismatching ill-prepared students with highly demanding coursework. It's not hard to imagine what happens when schools are more willing to take that risk and also offer students the escape hatch of an easier major if things don't work out.

The hard evidence for this phenomenon is somewhat mixed, suggesting once again that mismatch effects vary across different settings. Clearly, lower-scoring students are more likely to leave hard majors than are their higher-scoring peers—that's common sense[31] and borne out in the data[32]—but it's not always clear that those lower-scoring students would have had better chances at a lower-tier school.

One landmark study, by Frederick L. Smyth and John J. McArdle,[33] looked at students at selective schools intending to go into science, math, and engineering, and concluded that underrepresented minority students were more likely to persist when they went to school with peers of similar qualifications. A study of the University of California system from Marc Luppino and Sander, however, concluded that *whites* "typically react to stronger peers in the sciences by shifting

majors," while "under-represented minorities tend to persist in the sciences regardless of peer quality, but in more competitive programs they suffer—often substantially—in terms of college grades and the likelihood of graduating."[34] (This finding again suggests that, even if affirmative action doesn't reduce overall graduation rates, it might affect some subsets of students that way.) The aforementioned Bleemer study of Prop. 209, however, found that banning affirmative action in California reduced the number of minority STEM graduates; during affirmative action, not only did more underrepresented minority students graduate, but they were, if anything, more likely to earn STEM degrees when they did.

Postgraduate Outcomes

Even after a student graduates, the potential for mismatch effects is not over. A graduate of a higher-tier school might benefit from a more elite credential or the human capital built with better professors but—if he learned less than he would have at a better-fitting institution—could flounder in the workplace. This is, in many ways, the *most* important question: Regardless of grades or even graduation, did kids end up better or worse off for being sent to higher-tier schools than would normally accept them?

An important study from Stacy B. Dale and Alan B. Krueger[35] linked the College and Beyond data set, containing information on students from more than 30 colleges, with administrative data from the Social Security Administration so that they could track students' outcomes after graduation. They accounted not only for students' own measured characteristics but also the average SAT scores of the schools to which they applied (which may signal other abilities that are not measured in the data set). Oddly, they found little advantage in attending a more selective college—for white students, at least. For black and Hispanic students, attending a more selective school boosted earnings. "One possible explanation for this pattern of results," they wrote, "is that highly selective colleges provide access to networks for minority students and for students from disadvantaged family backgrounds that are otherwise not available to them."

Though focused on class rather than race, a large study from Raj Chetty et al. found that children who attended the same school tended to have similar earnings outcomes regardless of whether they came from high- or low-income families, "indicating that low-income students are not mismatched at selective colleges."[36]

Bleemer's data also allowed him to track postcollege outcomes and how they changed after Prop. 209. His results were mixed: Hispanic students, but *not* black students, earned more if they benefited from affirmative action. "While the gap may be partially explained" by black students' heading to selective schools elsewhere that still had affirmative action, he wrote that "this suggests that while UC's affirmative action provided substantial long-run wage returns to Hispanic students, its labor market benefits to Black Californians may have been small."

This disparity may occur because black students are generally given bigger admissions boosts, and thus the mismatch stemming from affirmative action was more likely to harm their learning and thus their human capital, often canceling out the positive effect of going to a better school. A commonsense way of thinking about this possibility is that *some* affirmative action is certainly good for those receiving it—no one thinks that, say, a one-point ACT boost that gets someone into UCLA will leave him so hopelessly mismatched with his peers as to outweigh the benefit of getting in to UCLA—but those benefits may disappear or reverse when preferences become too large. The total effect of a large boost will be a combination of the two effects: despite receiving a large boost, some affected students only needed a small one to get in, and they'll be better off; others needed the large boost and are severely mismatched as a result.

Regardless of the mechanism, it is worth emphasizing how striking Bleemer's (non-)finding is. Improving the long-run economic outcomes of African-Americans is arguably the single most important goal of affirmative action.

A Solution: Give Better Information

The Supreme Court may legally end affirmative action at nearly all colleges. Even in that event, however, the mismatch issue will not disappear. Some schools will almost certainly continue to consider race through covert means. Others will turn to preferences based on factors other than race, which could also lead to mismatch. Admissions decisions are almost always somewhat subjective, and even at public schools, courts and elected policymakers cannot control what happens entirely.

By this point, I hope that it is clear that the decisions facing an affirmative-action beneficiary (or any student admitted to a school where his peers have significantly stronger entering qualifications) are immensely complicated. A higher-tier school offers a more dazzling credential and networks of connected peers but also the risk of lower grades and—if the subject matter is difficult and the student can't keep up—less learning. Despite considerable study and debate, experts do not agree on the exact contours of the trade-off here.

One way to help would be to provide students with detailed information about their options. The system that I envision would work something like this: a student sends out his applications and is accepted to several programs. He then can figure out—by reading the acceptance materials themselves, or through an online tool—how students *with his level of academic preparation* tend to fare if they attend those programs; ideally, a trusted adult such as a parent or guidance counselor would help him evaluate the options because providing extra information to students alone is not always effective.[37] By comparing these average outcomes across several schools, the student could make his decision in a way that factored in mismatch effects.

Implementing this idea would take a lot of data, and numbers for smaller programs might need to be estimated statistically, but it could lead to better decision-making. Respected higher-ed scholars have made similar proposals in the past, including a 2017 Urban Institute brief[38]—though the suggestion was not made specifically to address mismatch concerns—as well as a 2020 law review article from Arcidiacono and two coauthors arguing that "universities have a *moral imperative* to provide students with accurate information about their prospects of success."[39]

The idea is also part of a broader trend toward giving students more information about colleges and the outcomes associated with them. The government's College Scorecard,[40] for example, already provides program-by-program numbers on student outcomes derived from numerous sources, including IRS W-2s,[41] and the data have been used to, for example, rigorously compute the "return on investment" of thousands of bachelor-degree programs.[42] Another project, using data from the Scorecard and other sources and spearheaded by the economist Raj Chetty, has shown how various colleges fare in terms of promoting social mobility.[43]

Further, research suggests that potential college students can benefit from being given even fairly basic information. For instance, low-income, high-achieving students often fail to apply to selective schools where they'd likely be accepted and receive generous financial aid—in other words, rather than receiving preferences and attending a school where they compete with more advanced peers, many strong students go to less selective institutions for which they're *over*qualified.[44] Extremely simple informational interventions—such as encouraging them to

apply to a better school, pointing out how good their chances are, and explaining what they will actually pay if accepted—dramatically increase their chances.[45] Some studies also suggest, unsurprisingly, that kids consider their likely earnings when they pick a major.[46]

Giving kids accurate information about how students like them fare in various selective programs could similarly shape their choices—not only helping them avoid mismatch but also helping them take advantage of any *reverse*-mismatch effects (such as when a more selective school offers *better* chances of graduation, despite a student's low SAT score). In turn, the data collected for this effort could be used to further study the phenomenon of mismatch itself, given how many unanswered questions remain in the literature.

On a practical level, implementing this would be a significant undertaking, possibly requiring new legislation, the details of which I will leave to others. Briefly, however, schools already have data on applicants' precollege academic credentials, their fields of study, and their ultimate class-rank and graduation outcomes—so, in theory, they could be required to publicly report cross-tabulations of these variables, much the way they already provide various other statistics to the Integrated Postsecondary Education Data System (IPEDS). Comprehensively tracking mismatch effects *after* college would require linking individual students' test scores, etc., to their later income data, however, which raises an additional layer of privacy and legal[47] concerns. At the very minimum, such data must be processed, analyzed, and published in a way that respects subjects' anonymity. Recall, however, that the government *already* uses W-2 data, which are just as private in nature, to track postcollege outcomes.

Conclusion

The mismatch question asks whether affirmative action redistributes opportunity on the basis of race, as it is intended to, or if it instead harms even the people that it is meant to help. The answer is that it is capable of doing both, depending on the exact situation that a given student finds himself in. Whatever room the Supreme Court leaves for schools to consider race, going forward, a major goal should be to help students evaluate those situations with accurate, detailed information.

Endnotes

1 Title VI, 42 U.S.C. § 2000d.

2 Drew DeSilver, "A Majority of U.S. Colleges Admit Most Students Who Apply," *Pew Research Center* (blog), Apr. 9, 2019.

3 Thomas J. Espenshade and Alexandria Walton Radford, *No Longer Separate, Not Yet Equal: Race and Class in Elite College Admissions and Campus Life* (Princeton, NJ: Princeton University Press, 2009), table 3.5.

4 Althea Nagai, "Pervasive Preferences 2.0: Undergraduate and Law School Admissions Statistics Since *Grutter*," Center for Equal Opportunity, Feb. 9, 2021. See also Peter Arcidiacono and Michael Lovenheim, "Affirmative Action and the Quality-Fit Trade-Off," *Journal of Economic Literature* 54, no. 1 (March 2016): 3–51.

5 Peter Arcidiacono, Josh Kinsler, and Tyler Ransom, "What the Students for Fair Admissions Cases Reveal About Racial Preferences," National Bureau of Economic Research (NBER), working paper no. 29964, April 2022.

6 Arcidiacono, Kinsler, and Ransom, e.g., report an "average marginal effect" of 7.29 percentage points—a fourfold boost for black applicants, only 2.25% of whom would get in without preferences. Harvard's expert, by contrast, reports effects ranging from 5.2 to 7.43 points, depending on the year. See *SFFA v. Harvard*, "Report of David Card, Ph.D.," Dec. 15, 2017, exhibit 26.

7 *SFFA v. UNC*, "Expert Report of Caroline M. Hoxby, Ph.D.," Jan. 12, 2018. exhibit 1, tables 1–2. The percentage, per the report, is calculated by decomposing the models' R-squared statistics.

8 *SFFA v. UNC*, "Rebuttal Expert Report of Peter S. Arcidiacono," Apr. 6, 2018. More technically, Arcidiacono also argued that the defense expert conflated "R-square" with "pseudo-R-square" and neglected to address important differences between them.

9 Espenshade and Radford, by contrast, found that some private schools do seem to run their preference regimes that way, or at least they did in the 1990s. See *No Longer Separate, Not Yet Equal*, figs. 3.8 and 3.9, pp. 98–100. The authors' models, relying on extensive data from a handful of selective schools in 1997, suggest that public schools take little note of class at all, while private schools treat the intersection of race and class in a rather uncomfortable way: holding all else equal, being lower- rather than upper-class can roughly triple (or more) admission chances for blacks, Hispanics, and Asians. Yet it *reduces* chances more than half for whites. A set of credentials that would give a lower-class black student an 87% chance of getting in would give a 17% chance to an upper-class black student, a 23% chance to an upper-class white student, and only an 8% chance to a lower-class white student.

10 For a response to one exception, see Amy Lutz, Pamela R. Bennett, and Rebecca Wang, "Mismatch and Academic Performance at America's Selective Colleges and Universities," *Ethnic and Racial Studies* 41, no. 14 (Nov. 14, 2018): 2599–2614.

11 Ian Ayres, Richard Brooks, and Zachary Shelley, "Affirmative Action *Still* Hasn't Been Shown to Reduce the Number of Black Lawyers: A Response to Sander," *International Review of Law and Economics* 69 (Mar. 1, 2022): 106032.

12 Matthew M. Chingos, "Are Minority Students Harmed by Affirmative Action?" Brookings Institution, Mar. 7, 2013.

13 Richard Sander, "Replication of Mismatch Research: Ayres, Brooks and Ho," *International Review of Law and Economics* 58 (June 2019): 75–88.

14 College Navigator, from the National Center for Education Statistics, is the most comprehensive source.

15 Peter Arcidiacono et al., "Does Affirmative Action Lead to Mismatch? A New Test and Evidence," *Quantitative Economics* 2, no. 3 (2011): 303–33.

16 Richard H. Sander, "A Systemic Analysis of Affirmative Action in American Law Schools," *Stanford Law Review* 57 (November 2004): 367–483. See discussion of previous research starting on p. 450.

17 Ian Ayres and Richard Brooks, "Does Affirmative Action Reduce the Number of Black Lawyers?" *Stanford Law Review* 57, no. 6 (May 2005): 1807–54.

18 Daniel E. Ho, "Why Affirmative Action Does Not Cause Black Students to Fail the Bar," *Yale Law Journal* 114, no. 8 (June 2005): 1997–2004. Ho presents his matching results as "estimated causal effects," but this is an overstatement. Matching on a set of variables has some advantages and disadvantages relative to controlling for those same variables statistically, but both can suffer from omitted-variable bias, seeing as both are limited to accounting for the variables that are actually in the data set. Thus they are not quasi-experimental or causal strategies. See, e.g., Michael K. Miller, "The Case Against Matching," George Washington University, July 9, 2013: "Matching has no advantage relative to regression for proving causation or dealing with endogeneity, since matching can only account for observed covariates."

19 Sander, "Replication of Mismatch Research: Ayres, Brooks and Ho."

20 See, e.g., Ayres, Brooks, and Shelley, "Affirmative Action *Still* Hasn't Been Shown to Reduce the Number of Black Lawyers"; David Bjerk, "Replication of Mismatch Research: Ayers, Brooks, and Ho (Comment)," *International Review of Law and Economics* 58 (June 2019): 3–5.

21 Doug Williams, "Do Racial Preferences Affect Minority Learning in Law Schools?" *Journal of Empirical Legal Studies* 10, no. 2 (June 2013): 171–95.

22 Arcidiacono and Lovenheim, "Affirmative Action and the Quality-Fit Trade-Off.

23 Richard H. Sander and Robert Steinbuch, "Mismatch and Bar Passage: A School-Specific Analysis," UCLA School of Law, Public Law Research Paper no. 17-40, Oct. 17, 2017, rev. June 28, 2021.

24 See, e.g. Sherod Thaxton, "A Comment on Sander and Steinbuch's 'Mismatch and Bar Passage: A School-Specific Analysis,' " UCLA School of Law, Public Law Research Paper no. 22-12, Mar. 31, 2022, rev. June 22, 2022.

[25] Espenshade and Radford, *No Longer Separate, Not Yet Equal*. See discussion on pp. 233–40.

[26] This mirrored earlier results from a similar book, William Bowen and Derek Bok's *The Shape of the River* (Princeton, NJ: Princeton University Press, 1998), as well as some smaller academic studies. See roundup in William Kidder and Angela Onwuachi-Willig, "Still Hazy After All These Years: The Data and Theory Behind 'Mismatch,' " *Texas Law Review* 92 (2014): 895–941. For a more recent null finding—i.e., that mismatch made no difference to graduation rates—see Lutz, Bennett, and Wang, "Mismatch and Academic Performance at America's Selective Colleges and Universities."

[27] See, e.g., Peter Arcidiacono et al., "Affirmative Action and University Fit: Evidence from Proposition 209," NBER, working paper no. 18523, November 2012.

[28] Zachary Bleemer, "Affirmative Action, Mismatch, and Economic Mobility After California's Proposition 209," UC Berkeley Center for Studies in Higher Education, Research & Occasional Paper Series, August 2020.

[29] Richard Sander, "A Brief Commentary on Zachary Bleemer's August 2020 Paper," Californians for Equal Rights, Sept. 4, 2020. See also this response to Sander: William C. Kidder, "Fact Check and Research Synthesis: Affirmative Action, Graduation Rates and Enrollment Choice at the University of California," UCLA Civil Rights Project, Sept. 7, 2020.

[30] Stu Schmill, "We Are Reinstating Our SAT/ACT Requirement for Future Admissions Cycles," MIT Admissions, Mar. 28, 2022.

[31] This is a "within-school" comparison, similar to mismatched students' tending to end up toward the bottom of the class. As noted above, even overall skeptics of mismatch tend to recognize that entering credentials correlate with academic outcomes and that, therefore, one effect of admitting preferred students with lower entering credentials is that they'll underperform their higher-scoring peers admitted through the normal process. But a comparison between low- and high-scoring students *within a school* tells us little about what would have happened to the low-scoring students if they had gone to a *different* school. The counterfactual implicated by the affirmative-action debate, after all, is precisely that.

[32] See, e.g., Peter Arcidiacono, Esteban M. Aucejo, and Ken Spenner, "What Happens After Enrollment? An Analysis of the Time Path of Racial Differences in GPA and Major Choice," *IZA Journal of Labor Economics* 1, no. 1 (Oct. 9, 2012): 5. See also Catherine Riegle-Crumb, Barbara King, and Yasmiyn Irizarry, "Does STEM Stand Out? Examining Racial/Ethnic Gaps in Persistence Across Postsecondary Fields," *Educational Researcher* 48, no. 3 (Apr. 1, 2019): 133–44.

[33] Frederick L. Smyth and John J. McArdle, "Ethnic and Gender Differences in Science Graduation at Selective Colleges with Implications for Admission Policy and College Choice," *Research in Higher Education* 45, no. 4 (June 2004): 353–81.

[34] Marc Luppino and Richard Sander, "College Major Peer Effects and Attrition from the Sciences," *IZA Journal of Labor Economics* 4, no. 1 (Feb. 28, 2015): 4.

[35] Stacy B. Dale and Alan B. Krueger, "Estimating the Effects of College Characteristics over the Career Using Administrative Earnings Data," *Journal of Human Resources* 49, no. 2 (Mar. 31, 2014): 323–58.

[36] Raj Chetty et al., "Mobility Report Cards: The Role of Colleges in Intergenerational Mobility," NBER working paper no. 23618, July 2017.

[37] For a look at the evidence of how different types of students tend to use information, see Kristin Blagg, "The Limits and Potential of Program-Level Earnings in Higher Education Accountability," in *Student Outcomes and Earnings in Higher Education Policy*, ed. Jason D. Delisle (Washington, DC: American Enterprise Institute, 2022), 93–105.

[38] Jordan Matsudaira, "Federal Efforts Could Improve the Data Available to Drive Improvement in Higher Education," Urban Institute, Sept. 19, 2017. See, esp., recommendation 3.

[39] Peter S. Arcidiacono, Josh Kinsler, and Tyler Ransom, "Affirmative Action, Transparency, and the *SFFA v. Harvard* Case," *University of Chicago Law Review Online*, Oct. 30, 2020.

[40] For more detail on this effort and potential ways to expand and improve it, see Jason D. Delisle, ed., *Student Outcomes and Earnings in Higher Education Policy* (Washington, DC: American Enterprise Institute, 2022).

[41] U.S. Dept. of Education, College Scorecard, "Data Documentation."

[42] Preston Cooper, "We Calculated Return on Investment for 30,000 Bachelor's Degrees. Find Yours," FREOPP, Oct. 26, 2021.

[43] Chetty et al., "Mobility Report Cards." For a more accessible data tool based on the study, see "Economic Diversity and Student Outcomes at America's Colleges and Universities: Find Your College," *New York Times*, Jan. 18, 2017.

[44] Chingos, "Are Minority Students Harmed by Affirmative Action?"

[45] See Caroline Hoxby and Sarah Turner, "What High-Achieving Low-Income Students Know About College," NBER working paper no. 20861, January 2015; see also Susan Dynarski et al., "Closing the Gap: The Effect of Reducing Complexity and Uncertainty in College Pricing on the Choices of Low-Income Students," *American Economic Review* 111, no. 6 (June 2021): 1721–56.

[46] See, e.g., Rachel Baker et al., "The Effect of Labor Market Information on Community College Students' Major Choice," *Economics of Education Review* 65 (Aug. 1, 2018): 18–30: "a 10% increase in salary is associated with a 14 to 18% increase in the probability of choosing a specific category of majors."

[47] See, e.g., the ban on federal "student unit records" and the long debate over it: Andrew Kreighbaum, "Push for 'Unit Records' Revived," *Inside Higher Ed*, May 16, 2017; New America Foundation, "Student Unit Record Data System: About the Topic."