AFFIRMATIVE ACTION: MORE EFFICIENT THAN COLOR BLINDNESS

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I.   INTRODUCTION

Perhaps more than at any time since its inception, affirmative action has been under attack—in the judiciary, in state governments, and through voter initiatives. While the United States Supreme Court recently upheld the constitutionality of the affirmative action program at the University of Michigan Law School,[1] it declared the undergraduate   affirmative   action   policy   unconstitutional.[2] Affirmative action policies for undergraduates were declared unconstitutional at the University of Texas[3] and the University of Georgia.[4]   In 1995, the University of California Board of Regents decreed that race could not be a factor in university admissions.[5] Proposition 209[6] in California and Initiative 200[7] in Washington prohibit the government from giving race-based preferential treatment in public employment or public education.[8] Such actions should not be surprising given the lack of public support for affirmative action. In 1996, a large majority of Americans as a whole, including over a third of African-Americans and over seventy percent of Hispanic-Americans, opposed affirmative action.[9]

A primary driving force behind this opposition to affirmative action is the principle of "color blindness," that is, the idea that race is an irrelevant characteristic that should not affect the university one can attend or the job one can obtain. While color blindness has widespread support,[10] in this paper I demonstrate that adherence to

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    1. Grutter v. Bollinger, 539 U.S. 306 (2003).
    2. Gratz v. Bollinger, 539 U.S. 244 (2003).
    3. Hopwood v. Texas, 236 F.3d 256 (5th Cir. 2000).
    4. Johnson v. Bd. of Regents of the Univ. of Ga., 263 F.3d 1234 (11th Cir. 2001).
    5. HARRY HOLZER & DAVID NEUMARK, ASSESSING AFFIRMATIVE ACTION 1, n.1 (Nat'l Bureau of Econ. Research,Working Paper No. 7323, 1999).
    6. CAL. CONST., art. I, § 31 (amended 1996).
    7. WASH. REV. CODE § 49.60.400 (2004).
    8. Peter H. Schuck, *Affirmative Action: Past, Present, and Future*, 20 YALE L. & POL'Y REV. 1, 54 (2002).
    9. *Id.*
    10. *See* Nancy DiTomaso et al., *White Views of Civil Rights and Equal Opportunity: Colorblindness, Qualifications, and Quotas* (Jan. 2002), *at* http://papers.ssrn.com/sol3/ papers.cfm?abstract_id=320361.

this principle impedes economic efficiency when there has been past discrimination based on color.[11]   This result holds even if the past discrimination occurred in prior generations and no one living has been the direct victim of discrimination.   I do not claim that discrimination has been eliminated. Rather, my point is simply that even if discrimination has been entirely eliminated, one can still justify affirmative action as an optimal response to past discrimination.

Thus, the argument for affirmative action in this paper is quite different from standard arguments for affirmative action. It does not depend on any value associated with diversity. It is not based on any particular conception of fairness or justice. The argument in this paper is simply that past discrimination based on color creates inefficiencies in the economy that persist across generations, making race a relevant characteristic for firms and universities to consider when looking to hire or admit the best candidates. In fact, race is still relevant even if the firm or university is able to observe the economic status of the candidate. That is, even if one is only concerned about economic efficiency, affirmative action based on economic disadvantage does not eliminate the need for affirmative action based on race.

The primary purpose of this paper is to present the argument that affirmative action is necessary for efficiency, regardless of whether affirmative action is constitutional. Because universities cannot implement an efficient, non-discriminatory admissions policy without taking race into account, affirmative action becomes a state necessity. This paper argues that, while the efficiency of affirmative action derives from the effects of past discrimination, the justification for using affirmative action is its necessity to improve the quality of a firm's hires or a university's students.

II.   LEGAL FOCUS V. ACTUAL JUSTIFICATIONS AND PRACTICE

Due primarily to Justice Powell's opinion in *Bakke*,[12] universities have tried to justify their affirmative action programs on the grounds that they are necessary to promote diversity, with ethnic

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11. My definition of economic efficiency in this paper is the following: An outcome is more efficient than another outcome if the sum of the total wealth of everyone in society is greater under the former outcome than the latter. Notice that this definition of economic efficiency does not take distributional considerations into account. This does not mean that I do not think distributional considerations are important. I adopt this definition to show that even if one is not concerned about distribution, affirmative action can still promote economic efficiency.
12. Regents of the Univ. of Cal. v. Bakke, 438 U.S. 265, 314 (1978).

diversity as only one factor.[13] While the diversity rationale may be necessary for affirmative action programs to overcome judicial scrutiny,[14] concern for diversity is not the primary reason that universities actually practice affirmative action. For example, while the University of Georgia's admissions policy considered twelve different factors that might contribute to a diverse student body, race received more weight than any other factor other than SAT score.[15] The Eleventh Circuit Court of Appeals found that such an admissions policy "contemplates that non-white applicants will be admitted or advance further in the process at the expense of white applicants with greater potential to contribute to a diverse student body."[16] Similarly, the University of Michigan Law School acknowledged in *Grutter v. Bollinger* that it used race for the purpose of obtaining a sufficient enrollment of racial and ethnic minorities.[17]

This is not to say that universities do not value a diverse student body. For example, diversity is the primary reason why admissions committees care about a student's extra-curricular activities.[18] What the foregoing cases make clear, however, is that the benefits of a diverse student body are but a small part of why universities give preferences to racial and ethnic minorities. Clearly, at least some admissions committees place much greater weight on race than on any other trait that could make the student body more diverse.[19] While it is impossible to divine the true reason, it is quite likely that prevalence of past discrimination against racial and ethnic minorities in the United States, especially against African-Americans, is a primary driving force behind the strong preferences given to minorities.[20]

Few would deny that this country has only recently emerged from an era where discrimination was ubiquitous. William Bowen and Derek Bok have recently provided an excellent description of the magnitude of the discrimination faced by African-Americans in the not too distant past.[21] This history provides the initial justification for affirmative action and is likely the most compelling justification

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13. *See* Samuel Issacharoff, *Law and Misdirection in the Debate over Affirmative Action*, 2002 U. CHI. LEGAL F. 11, 16–17 (2002).

14. *Id.*

15. Johnson v. Bd. of Regents of Univ. of Ga., 263 F.3d 1234, 1257 (11th Cir. 2001).

16. *Id.* at 1254.

17. Grutter v. Bollinger, 137 F. Supp. 2d 821, 842 (E.D. Mich. 2001).

18. WILLIAM G. BOWEN & DEREK BOK, THE SHAPE OF THE RIVER: LONG-TERM CONSEQUENCES OF CONSIDERING RACE IN COLLEGE AND UNIVERSITY ADMISSIONS 24 (1998).

19. *See Bd. of Regents of Univ. of Ga.*, 263 F.3d at 1254.

20. As Samuel Issacharoff argues, "the concept of diversity ill explains the commitment to minority representation at elite institutions of higher education." Issacharoff, *supra* note 13, at 18.

21. BOWEN & BOK, *supra* note 18, at 1–14.

for many current supporters of affirmative action. Unfortunately, supporters cannot admit this justification because it is invalid in the eyes of the Supreme Court.[22] The Supreme Court has made clear that institutions cannot use past discrimination as a justification for using affirmative action in the present.[23]

These holdings are unfortunate because, as the following section will illustrate, past discrimination can provide a compelling justification for affirmative action on economic efficiency grounds alone. As a result, when the Court prohibits the state from using affirmative action because of past discrimination, it prohibits it from acting as any non-discriminatory, self-interested private entity would act.

III. ANALYSIS OF THE PAST DISCRIMINATION JUSTIFICATION FOR AFFIRMATIVE ACTION

A.   OVERVIEW

In this section, I present an economic justification for affirmative action based solely on the existence of past discrimination.[24] Of course, I am not suggesting that this is the only valid argument, based on economic analysis or otherwise, for affirmative action.[25] Nor does it mean that there are no valid arguments against affirmative action.[26] Rather, the purpose of this section is to demonstrate that past discrimination generates a need for at least some affirmative action, even if economic efficiency is one's only concern. Other arguments for affirmative action might complement this conclusion and thus justify even more affirmative action. On the other hand, other arguments against affirmative action could, in principle, outweigh this argument for affirmative action. It is important to note, however, that these arguments must be something other than the standard claim that affirmative action

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22. *See Bakke*, 438 U.S. 265..

23. Wygant v. Jackson Bd. of Educ., 476 U.S. 267, 274 (1986); *See also* City of Richmond v. J. A. Croson Co., 488 U.S. 469, 498–99 (1989).

24. A somewhat related argument was presented by Martin J. Katz. Martin J. Katz, *The Three Fallacies of* Croson, 100 Yale L.J. 1033 (1991). He argues that past discrimination can disadvantage a minority relative to a non-minority in business because the non-minority would have had more time to learn the business and thus have lower costs, an effect that can even be handed down through generations. Aside from different settings, the key difference between our models is that my model demonstrates that the disadvantage due to past discrimination actually makes some affirmative action efficient, while his article demonstrates that affirmative action is necessary to redress past discrimination, regardless of efficiency.

25. *See, e.g.*, Kim-Sau Chung, *Role Models and Arguments for Affirmative Action*, 90 AM. ECON. REV. 640, 646–47 (2000); Susan Athey et al., *Mentoring and Diversity*, 90 AM. ECON. REV. 765 (2000).

26. HOLZER & NEUMARK, *supra* note 5, at 68–69.

leads to inefficiency because it leads to admitting, promoting, or hiring a less qualified applicant.[27] Taking this source of inefficiency into account, I argue that affirmative action can still be efficient, which is true even if a less qualified applicant sometimes receives a position that could be filled by a more qualified applicant.

Of course, one might think that if past discrimination generates inefficiency that can only be remedied by affirmative action, the private sector should automatically generate an efficient level of affirmative action, obviating any need for government affirmative action programs. To address this objection, I distinguish between two different types of affirmative action: voluntary affirmative action and externally-induced affirmative action. Voluntary affirmative action can be understood as when non-discriminatory firms or schools decide, without any government inducement, to consider an applicant's membership in a group that suffered from past discrimination in addition to her qualifications. Externally-induced affirmative action would then be when the government provides incentives to firms or schools to give additional preferences to members of groups that have suffered from past discrimination. I will show that completely self-interested firms and educational institutions should practice voluntary affirmative action because of past discrimination. Of course, since many educational institutions are public, a prohibition of public affirmative action denies these universities the opportunity to practice the voluntary affirmative action that private universities and firms find in their best interest. Moreover, even if all firms and educational institutions are free to practice voluntary affirmation action—and in a self-interested, non-discriminatory manner—there will still be an insufficient amount of affirmative action to create sufficient economic efficiency. To remedy this, some externally-induced affirmative action may be necessary.

B.   MODEL DESCRIPTION

I derive these results using the following simplified model of an individual's economic life: Each person is endowed with a given ability. That ability, combined with her parent's investments in her education plus some random, unpredictable factors, determines her success in school. This is her first stage outcome. In the second stage employers or universities observe this first stage outcome, the person's race, and possibly part of her family's economic background. Using this information, those employers or universities

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27. George E. Johnson & Finis Welch, *The Labor Market Implications of an Economywide Affirmative Action Program*, 29 INDUS. & LAB. REL. REV. 508 (1976).

decide whether or not to offer this person a position. I focus on the cases where firms[28] and universities are entirely self-interested. What this means for the firm is straightforward: it maximizes profits by making job offers to the candidates that it expects to be the most productive. Defining a university's self-interest, on the other hand, is more complicated. In this paper I assume that universities want to maximize the success of their students. While I do not precisely define what I mean by success, the important assumption is that a person's success in the university case, or productivity in the employment case, is likely to be greater the greater her ability and the greater her schooling success. People who are likely to be more successful at a university or more productive in their job are offered better jobs or admission to better universities. As a result, they earn more money.

Obviously, this model abstracts from many features of reality. People do not have only one ability that affects their performance in all jobs or universities. I condense these many different abilities into one for the sake of simplicity. While it does not capture all the features of reality, using one ability greatly simplifies the discussion. The basic features of the analysis would apply equally well with multiple abilities, as long as one person's collection of abilities makes it easier for her to do better in school and get better jobs than another person's collection of abilities. Similarly, the assumption that one analysis precisely defines the outcome of a person's success in school is a simplification, but not one that drives the results.[29] What is important is that firms or universities can observe a student's records and agree who did better in school and who did worse. Similar remarks apply regarding the use of one productivity measure for all jobs or universities. The assumption that people who can get better jobs or admission to better universities make more money is also not universally true, but is likely to be true on the average, making it a reasonable approximation of reality.[30]

While these simplifying assumptions do not drive the result that affirmative action improves economic efficiency, this result does depend on some critical assumptions. The key assumptions that drive my results are the following:

1. A person is the same race as her parents;

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28. I will use the terms employer and firm interchangeably.

29. Julian C. Stanley, *Predicting College Success of the Educationally Disadvantaged*, 171 SCIENCE 640 (1971).

30. BOWEN & BOK, *supra* note 18 at 276 (concluding that admission to elite universities "pays off handsomely for individuals of all races, from all backgrounds").

2. A person's ability positively correlates with her parents' ability;[31]

3. The wealth of a person's family affects her success in school;[32]

4. Job or higher education performance depends both on one's ability (which firms and universities cannot directly observe) and what one has learned (measured by success in school, which firms and universities can directly observe);[33]

5. There is sufficient randomness in the world that it is impossible to ever perfectly infer a person's ability from past results (such as her success in school and that of her ancestors); and

6. Minorities and non-minorities have identical ability distributions.[34]

The first assumption means that this argument applies to race-based affirmative action but does not apply to gender-based affirmative action. Obviously, this assumption does not hold exactly in all instances even for race: some children are adopted by parents of a different race and some children are born to parents who are of different races. Even so, this assumption is a fairly accurate description of reality. The reason this assumption is important is that the mechanism by which past discrimination disadvantages minorities today is through the effect it had on their parents, grandparents, great-grandparents, etc.

While Assumption 2 requires a positive correlation in ability across generations, this does not require strict genetic determinism.[35] First, the method of this correlation need not be genetic, though it certainly could be. An advantage of being high-ability could be that one is better able to teach one's children what they need to know to

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31. Positive correlation means that, on the average, higher ability parents tend to have higher ability children.

32. Ample empirical literature justifies this assumption. *See, e.g.,* Scott Boggess, *Family Structure, Economic Status, and Educational Attainment*, 11 J. POPULATION ECON. 205, 219 (finding that family income has a significant positive effect on high school completion rates).

33. *See* BOWEN & BOK, *supra* note 18, at 89. With respect to ability, this assumption only requires that there be *a* factor that affects one's job performance that is correlated across generations. Beyond that, remaining completely agnostic about what this factor is, I simply call it "ability" for convenience.

34. Identical ability distributions means that the chance that any randomly selected person will have any given ability does not depend on that person's race.

35. That is, it is not necessary that this factor I call ability is in any way genetically transmitted from parent to child.

be high-ability.[36]   Second, whether the source of the correlation is genetic or otherwise, the argument does not require an extremely high degree of correlation.   While the magnitude of the optimal affirmative action, at least initially, is greater the greater the correlation, I will demonstrate below that any degree of positive correlation will make at least some affirmative action efficient.[37]   As with the first assumption, this assumption is critical because of how it ties past discrimination with present effects.

As with the second assumption, one should not take the third assumption (the wealth of a person's family affects her success in school) to imply that only children of wealthy parents can succeed in school.   The assumption is only that, all things being equal, having wealthier parents makes it more likely that a child will do well in school.[38]   It is important, however, that this effect occurs independently of any correlation in ability.   Parental wealth can improve one's success in school in many ways.   First, wealthy parents can afford houses in better school districts or afford to send their children to private schools.   Second, they can more easily afford other investments in their child's education such as more books at home, special after-school or summer programs that enhance school performance, or tutoring.   Again, this is not to suggest that wealthier families spend more money on these investments than do less wealthy families as a whole.   Rather, what is important is that it is generally true.[39]   Third, wealthier parents may be more likely to be acquainted with high-ability families and this interaction could give their children an advantage in school.[40]   The assumption guarantees that past discrimination will continue to impact a person's descendants even if those descendants do not suffer discrimination themselves.

Assumption four is that both ability and schooling success contribute to high performance in a job or in a university.   Since ability is unobservable, schooling success is an imperfect yet valuable indicator.   While not particularly controversial, this assumption is important because if schooling success was only valuable as a signal of ability, then the effects of past discrimination would be quickly eliminated by a short period of voluntary affirmative action, as will

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36. To the extent this correlation is due to non-genetic factors, this argument could apply to adopted children, though, because of the first assumption, it would only apply to same-race adoptions.

37. *See generally* Abraham L. Wickelgren, *The Efficiency of Affirmative Action with Purely Historical Discrimination* (Jan. 16, 2002), *at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=296943 (for a more formal proof of this concept).

38. *See* Boggess, *supra* note 32, at 219.

39. For the results in this paper to be valid, the exact explanation is not critical as long as it is true that being born to wealthier parents tends to give a child an advantage in school.

40. Again, this is just a supposition for why this assumption might hold. Whether this is the reason why having wealthier parents gives one an advantage in school or not, what is important is that there is evidence that this relationship exists.

become clear below. Externally-induced affirmative action would never be necessary. At the other extreme, if ability had no independent effect on performance, then firms would never practice voluntary affirmative action, though there would be a role for externally-induced affirmative action.

Assumption five (ability cannot be perfectly inferred from one's schooling success or that of his ancestors) is that while one's past successes or failures may be partially, or even largely, explainable by one's ability and family background, ability and background are not entirely deterministic.[41] A firm or university cannot predict a person's ability based solely on family background or how well she did in school. Either there are some unobservable factors which create schooling success, or there is some inherent randomness. It is not hard to think of examples that justify this assumption. Tragic events might impair a child's high school performance in unpredictable ways. A lower-ability student might do much better than her ability or her parent's wealth would predict if she happens to have a very bright friend who helps her a great deal. There are a host of other possibilities.[42] In some ways, this is the most critical assumption of the analysis. As we will see below, if family wealth and schooling success allowed one to perfectly predict ability, then race would never be useful. If there is some uncertainty, however, as I show below, race can be a useful signal of ability. Even though I assume that minorities have the same distribution of abilities as non-minorities, because of past discrimination, race is a useful signal when combined with other factors.

The last critical assumption is that race is unrelated to ability. If we could measure ability, we would find not only that the average ability is identical across races, but that the probability that any person has any given ability is identical across races. While impossible to prove or disprove, this must be the working assumption of any non-racist society. In addition, it is this assumption that makes the argument interesting. It is trivial to show that one should pay attention to race if abilities differ by race.

C. ANALYSIS

To determine the effect of past discrimination, one must first examine the effect that discrimination has on the distribution of

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41. *See* Stanley, *supra* note 29, at 642.

42. The Heisenberg Uncertainty Principle from quantum mechanics suggests that things cannot be perfectly predicted even if one knows all the underlying factors with certainty. If we cannot with certainty know the position and momentum of any particle in space, then how can we perfectly predict outcomes which result from the combinations of millions of particles. *See* THE UNCERTAINTY PRINCIPLE AND FOUNDATIONS OF QUANTUM MECHANICS: A FIFTY YEARS' SURVEY (William C. Price & Seymour S. Chissick eds., 1976).

wealth and ability by race. In the absence of discrimination, more able people will do better in school and thus go to better universities and get better jobs, enabling them to earn more money.[43] Of course, one should not expect this to produce a perfect correlation between wealth and ability due to randomness (assumption five). While more able people will tend to do better in school than less able people of similar family background,[44] the randomness in the world will mean that in some cases the reverse will occur. Nevertheless, in the absence of discrimination, more able people will, on average, be wealthier than less able people of similar family background.[45] Because more able people tend to have more able children, children of more able people should do better in school than children of less able people both because they tend to have greater ability and because their parents tend to be wealthier. Thus, over time and in the absence of discrimination, a general positive correlation between wealth and ability should develop.[46]

Now consider the effect of discrimination. I will analyze the case of discrimination in the second stage—the hiring or university admission stage. While it is impossible to divine the exact motives of discrimination, it is reasonable to assume that discrimination against minorities at firms or universities indicates a firm's or university's general preference for non-minorities over minorities. During the time of slavery, this preference may have been absolute, at least in the sense that presumably no African-American would ever receive a better job than an Anglo-American no matter how much more productive the African-American might have been. More recently however, discrimination against minorities was not absolute. Even when firms or universities had preferences for non-minorities, they would not indulge these preferences at any cost.[47]

For discrimination to exist, however, it must be the case that these firms and universities would generally accept a lower quality non-minority applicant for hire or admission, rather than an adequately qualified minority applicant. There is a consequence of these non-absolute preferences for discrimination. Specifically, in order for a minority to receive the same quality job or be admitted to the same quality school as a non-minority, the firm or university would have to expect the minority candidate's job or university

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43. Yannis M. Ioannides, *Heritability of Ability, Intergenerational Transfers & the Distribution of Wealth*, 27 INT'L ECON. REV. 611 (1986).

44. *Id.*

45. *Id.*

46. *See* Wickelgren, *supra* note 37, for a more mathematical proof of the steady state correlation between wealth and ability in this model.

47. Recall that I am only referring to past discrimination here because the point of this paper is to demonstrate that past discrimination, by itself, can justify affirmative action. I am not suggesting that discrimination no longer exists.

performance to exceed that of a non-minority candidate by some non-trivial amount. Because this performance is determined at least in part by schooling success and ability, a successful minority candidate must have done better in school, or must somehow appear to be more able, than would have been required had she been a non-minority. Recalling my model and its assumptions, the only way that a minority could do better in school than a non-minority but not have higher *expected* ability is if her parents were wealthier than the parents of the non-minority.[48] Since minorities suffer discrimination, however, this will usually not be the case. This implies that on the average, a minority that suffered discrimination is probably of higher ability than a non-minority with the same quality job or university degree.[49] Because getting a better job or getting admitted to a better school means earning more money, this suggests that, where there is discrimination present, a minority with the same wealth as a non-minority likely is of a higher ability.[50]

Put another way, discrimination means that minorities are held to a higher standard than non-minorities. Therefore, if a minority has reached the same position as a non-minority and the minority has had to overcome discrimination that the non-minority did not, then it can be assumed that the minority must be even more productive than the non-minority. If not, the firm would have never hired the minority. By the same argument, if a minority has slightly less wealth than a non-minority, the minority must be generally more able than the non-minority.

After discrimination of this sort persists for some time, the distribution of wealth and ability will differ for minorities and non-minorities. A correlation will arise between ability and wealth within each race, just as existed in the non-discrimination case.[51] But at any given level of wealth, because the minority had to be more productive in order to succeed than did the non-minority, the average ability of a minority should exceed the average ability of a non-minority. By the same token, the average wealth of a non-minority of any given ability level should exceed the average wealth of a minority of similar ability.[52]

Now that the effects of discrimination are evident, consider what happens if discrimination were to end. Of course, in reality discrimination would likely never end all at once in reality. It may

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48. Again, this must be true in this stylized model. As discussed in the prior subsection, this simplification is probably accurate on the average, so the results should remain valid in a more realistic setting.

49. See Wickelgren, *supra* note 37, for a mathematical proof that this follows from the model.

50. *Id.*

51. *Id.*

52. *Id.*

gradually fade away or end in some areas while persisting in others. Nevertheless, examining a theoretical instant and complete end to discrimination is instructive. If affirmative action is optimal even when there is no more discrimination anywhere in the economy, it will certainly be optimal if some pockets of discrimination remain.[53] Moreover, assuming that discrimination ends all at once allows one to isolate the effects of past discrimination independent of any effects due to present discrimination.

Because a child's ability positively correlates with her parents' ability, a child whose parents were discriminated against will experience the same correlation among wealth, ability, and race as did her parents. A minority child of parents of a given wealth level will generally be of higher ability than a non-minority child whose parents have the same wealth level. Because that minority child is likely to be of higher ability, we should expect that she will do better in school—again, assuming no discrimination. If there remains some discrimination that impedes minority children in school relative to non-minority children even when they have similar ability and parental wealth, then these assumptions fail. While the existence of such discrimination in no way undermines this argument for affirmative action, I assume it does not exist for the sake of simplicity and to isolate the argument that past discrimination justifies affirmative action.[54]

While a minority child will do better in school on average than a non-minority child when their parents have equal wealth, this is not true in every case. There are two primary reasons for this. First, while minority children will generally be of higher ability than non-minority children whose parents have equal wealth, there will always be cases where this will not be the case.[55] Second, even if the minority child is more able, ability and parental wealth can never perfectly predict schooling success.. Even if generally true, randomness in the schooling success outcome will cause disparate outcomes in some cases. This second reason ensures that race is useful information for a firm or university even if that firm or university is non-discriminatory.

Recall that where there is discrimination, minorities of a given wealth level are generally more able than non-minorities with the

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53. Qualitatively, the relationship between expected ability given wealth for minorities and non-minorities will be identical during the discrimination phase and after it. In fact, the differences that justify affirmative action are only stronger when discrimination still exists.

54. Such schooling discrimination would imply that schooling success signals ability in different ways for different races, but the signal would remain informative for both.

55. For instance, even if the minority parent is higher ability, because ability is not perfectly correlated across generations, the non-minority child could be higher ability. Similarly, minority parents are only on average more able than non-minority parents of equal wealth, so in any individual case, the reverse could be true.

same wealth. Bayes's Theorem[56] suggests that this means that minorities with a given wealth level *and* a given schooling success outcome will be more able, on average, than non-minorities with the same wealth level and level of schooling success. Thus, the fact that firms and universities can observe a person's schooling success does not mean that they can now ignore race in attempting to predict ability. Race remains a crucial factor in achieving an efficient affirmative action program. If discrimination causes minorities to be more able than non-minorities at any given wealth level, and ability is positively correlated across generations, then Bayes' Theorem implies that a minority whose parents suffered from discrimination is generally of higher ability than a non-minority when these two people have the same schooling success and parental wealth. In fact, the minority should be of higher ability even if the non-minority's schooling success outcome was slightly better than that of the minority.

D.   VOLUNTARY AFFIRMATIVE ACTION

As has been shown, race is useful information for a non-discriminatory firm or university. If expected performance is a function of ability and schooling success, then the firm or university needs to have all information available to it that can help it accurately predict ability. In the absence of discrimination, race provides no useful information because distribution of ability will be the same for all races. Similarly, if all the firm or university knew about an applicant was her race, it would likewise lack any useful information about her ability. However, the existence of past discrimination implies that the joint distributions of ability *and* wealth differ by race. Moreover, because wealth affects schooling success, the distribution of ability and schooling success will also differ by race. Thus, if the firm or university knows an applicant's schooling success as well as her parent's level of wealth, or even if it knows only her schooling success, then minorities appearing to be otherwise identical to non-minorities will generally possess higher abilities. As a result, a non-discriminatory yet purely self-interested firm or university will prefer a minority over a non-minority, all other things being equal. In fact, even if the minority's qualifications

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56. Bayes's Theorem is a result that shows how one should update the probability of a particular fact when one gets new information. In this case, the fact is the probability that a given person is of a given ability. The new information is that person's schooling success outcome. Somewhat informally, Bayes's Theorem says that the updated probability is proportional to the prior probability (the probability of the event before the new information existed). The important consequence for this analysis is that the prior probability matters unless the new information tells one for sure whether the fact is true or not. *See generally* JOSE M. BERNARDO & ADRIAN F. M. SMITH, BAYESIAN THEORY (1994).

are slightly worse than the non-minority's, the firm or university should still prefer the minority. I call this voluntary affirmative action because of the fact that race becomes a *positive* factor in the firm's or university's decision. Because this affirmative action is done voluntarily by a self-interested firm or university, it is clearly efficient presuming the goals of that firm or university are not contrary to societal goals.[57] This will be true in most cases, but, even where it is not, prohibiting affirmative action is unlikely to be the most effective way to make that firm or university less efficient at achieving its goals.

So far however I have only shown that voluntary affirmative action will occur in the period immediately after discrimination ends. A determination of its persistence through further generations requires an analysis of the hiring or admitting decision in more detail. If the firm or university only cared about an applicant's ability, then children of discriminated-against parents would face no disadvantages relative to children of parents who did not suffer from discrimination. The minority children would likely do worse in school because of their parents' relative poverty, but firms and universities would be able to consider this in estimating a candidate's expected ability by using her schooling success outcome. Because they would be able to estimate a minority's ability just as well as a non-minority's ability, non-discriminatory firms and universities would still be able to hire or admit the applicants with the highest expected ability. In successive generations, the relationship between ability and wealth would become identical across races, given that achieved position depends only on ability.

If however firms and universities care about both schooling success and ability, then a single, initial period of voluntary affirmative action will not eliminate the effects of past discrimination. To illustrate, notice that a firm or university will not only prefer a minority over an equally qualified non-minority, but should also, on average, be more likely to give a position to a non-minority over a minority of equal expected ability. This is because, as has been shown, the parents of a non-minority whose ability is equal to that of a given minority will likely be wealthier than the minority's parents because of past discrimination. As a result, the non-minority will generally do better in school. Thus, the firm or university would be comparing two candidates with equal expected ability yet unequal schooling success. Naturally, even a non-discriminatory firm or university will prefer the applicant with the

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57. If an entity does something in its own self-interest and that self-interest does not harm the wider social interest, then this action improves the entity's welfare without negative external effects, so it is necessarily efficient.

better schooling success outcome since she would likely be more productive.

Thus, when both ability and schooling success affect job or university performance, minority and non-minority candidates of equal expected performance will be systematically different. The minority candidates with a given expected performance level will tend to be of higher ability but with worse schooling outcomes than the non-minorities, whose expected ability and schooling outcomes together will produce the same expected performance. Thus, expected performance determines wealth. Even if they have not directly suffered from discrimination, minorities of a given wealth level will still tend to be more able than non-minorities who reach the same wealth level. In the absence of discrimination, this difference will be less pronounced than when there was direct discrimination, but it will still exist. This means that the second post-discrimination generation will be in the same position as the first, qualitatively if not quantitatively. By the same argument, the second generation would likely see no change in position either. Thus, because voluntary affirmative action is efficient for the first post-discrimination generation, it is efficient for all subsequent generations.

Of course, the impact of past discrimination would likely disappear slowly over time, and thus the optimal amount of voluntary affirmative action necessary to maintain efficiency should decline as well. However, as long as firms and universities fail to judge candidates solely on their ability, but rather on schooling success as well, the impact of past discrimination will never completely disappear. This implies that efficiency will continue to require at least some voluntary affirmative action. After many generations though, it is likely that the lingering effects of past discrimination would become trivial.

E.   EXTERNALLY-INDUCED AFFIRMATIVE ACTION

The preceding section demonstrated that allowing firms and universities to practice voluntary affirmative action is necessary for these entities to hire and admit the best applicants. As was shown, firms and universities use race as a factor because it provides useful information about a candidates' expected ability. Voluntary affirmative action will persist over time because, rather than eliminate the effects of past discrimination, it merely reduces their magnitude. Firms and universities (if they are entirely self-interested) have only a partial incentive towards eliminating the lingering effects of past discrimination because schooling success has a direct effect on job or university performance.

If *society* has an independent interest in eliminating the lingering effects of past discrimination, however, then the voluntary affirmative action practiced by firms and universities for their own objectives will be insufficient to meet societal goals. To the extent that these employers and universities are entirely self-interested, they would not likely consider the broader social objective of increasing the speed with which the lingering effects of past discrimination are eliminated. As this paper focuses purely on the economic efficiency justification for affirmative action, this section will advance some reasons why it might be more efficient to have wealth and ability be more highly correlated. Because past discrimination has undermined that correlation, the faster the effects of past discrimination are eliminated, the faster the correlation between wealth and ability can be restored.

Consider a firm's process of making hiring decisions. Obviously, different firms hire workers for different jobs. These different jobs make use of ability and schooling success differently. For most jobs, more able workers and workers who learned more in school will perform better than less able workers or workers who learned less in school. This difference in performance, however, will certainly differ for different jobs. For instance, a low-ability or low-knowledge research scientist is essentially useless, while a high-ability or high-knowledge research scientist can accomplish a great deal. On the other hand, a high-ability lab technician will perform many tasks better than a low-ability lab technician, but the difference in productivity between the two will pale in comparison to the difference between the low-ability and high-ability research scientists. While different jobs place premiums on various kinds of ability and knowledge, it is also true that jobs differ in the premium attached to ability and knowledge in general.[58]

Because of this, society may be more productive as a whole when high-ability people are also high-knowledge people. Consider the following simple example: assume only two types of jobs exist: skilled and unskilled. In the skilled jobs, ability and schooling success will make a worker more productive. In the unskilled jobs, all workers will be equally productive. In such a situation, workers who are not very productive at the skilled work will be productive in the unskilled sector. For these workers, ability and schooling success are less valuable. Thus, if a worker of medium ability had very poor parents and thus ended up with low schooling success, she will probably work in the unskilled job. A worker of slightly lower

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58. For example, someone without any education is probably useless as a nuclear physicist, while education probably does not improve one's performance by nearly as much if one is cleaning streets.

ability with rich parents, however, might do quite well in school and thus be productive enough to land a skilled sector job. Such an arrangement is clearly less efficient than one in which the worker of higher ability had the wealthier parents and the lower-ability worker had the poor parents. This is because the "new" skilled worker (the medium-ability worker whose parents are now rich) will be more productive than the "old" skilled worker (the low-ability worker with rich parents). The "new" skilled worker, being of higher ability will likely achieve greater schooling success. The "old" skilled worker now has lower ability and probably a lower schooling success score than before, but because she is now in the unskilled job, this should not affect her productivity. This simple example illustrates the more general point: when the productivity of jobs differ based on whether a worker is a little more knowledgeable or a little more able, then workers can be matched to jobs more efficiently if their knowledge is commensurate with their ability. A high correlation between ability and wealth will make it much more likely that workers have knowledge commensurate with their ability since the factors that contribute to knowledge (ability and parental wealth) will be similar.[59]

Another reason why a high correlation between ability and wealth contributes to efficiency is that ability and wealth are complementary in generating schooling success. A high-ability person should be better able to take advantage of parental investments in education. For example, a high-ability child should generally show more interest in the books and computers that her parents buy. If this is the case, then total productivity will be greater when wealth and ability are highly correlated because high-ability children will be more likely to be born to wealthy parents, allowing them to take full advantage of parental investments in education.

Of course, neither of these arguments for why a high correlation between ability and wealth is efficient necessarily follows from my main assumptions the way the arguments in the prior sections do. While I believe the first argument in particular is fairly strong, as evidenced by the increasingly high premium that very talented people are able to command,[60] one can also construct

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59. Granted, this is a very stylized example that was formulated to give the result that correlating ability and wealth is optimal. It certainly is not the case that in every possible situation one could imagine that having a maximal correlation between ability and knowledge is optimal. One could certainly construct examples that give the reverse result. What is generally true is that having different jobs with different skill premiums does tend to make greater correlation more likely to be optimal. *See* Wickelgren, *supra* note 37, for a mathematical proof that this follows from the model.

60. *See generally* Olivier Deschenes, *Unobserved Ability, Comparative Advantage, and the Rising Return to Education in the United States,* 1979–2000 2 (Dec. 2001) (unpublished working paper, Dept. of Econ., Univ. of Cal. at Santa Barbara).

somewhat reasonable settings in which less correlation between ability and wealth is efficient.[61] What these arguments do establish, however, is that the correlation between ability and wealth should be of great social concern. Firms and universities however practice voluntary affirmative action solely to achieve their own goals of hiring or admitting the most productive applicants, and not for any greater societal purpose.[62] To the extent that they do affect that correlation, the benefits or harms that result will accrue to all the firms and workers in the economy. Thus, self-interested firms or universities have little incentive to use affirmative action to affect this correlation in the future. Assuming this relationship does matter for efficiency in the next generation, the government is then the only actor who can give firms and universities the incentive to take this concern into account. To argue that government should not act in such a manner is to claim that societal productivity is completely independent of the correlation between ability and wealth.

Lastly, I note that the efficiency arguments for externally-induced affirmative action also justify many other policies that affect the correlation between ability and wealth.[63] Even so, to the extent that society values equality as well as total productivity, a key advantage of externally-induced affirmative action versus other such policies is that externally-induced affirmative action as a response to past discrimination is probably one of very few policies that can both increase this correlation and decrease inequality. This is not to say that externally-induced affirmative action does a great deal to remedy inequality. Since it tends to benefit the more able (and thus on the average, wealthier) minorities more than it benefits the less able (and probably poorer) minorities, there are other much more effective ways to reduce inequality.[64] Those other policies however probably reduce rather than increase the correlation between ability and wealth.[65] It is the combination of effects of externally-induced affirmative action that make it unique.

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61. If, for example, ability and educational attainment are substitutes rather than complements, then it would be more efficient to have less able people do better in school.

62. In fact, firms and universities can only affect the correlation between knowledge and ability in the next generation. *See supra* Part III.D.

63. The argument is general in that it says that increasing the correlation between ability and wealth is desirable, so this argument applies to any policy that has this effect.

64. For example, policies that explicitly target the poorest minorities will likely do more to reduce inequality than affirmative action which only affects minorities in a position to attend college.

65. This would be the case if, for example, the poorest minorities tended (at least on the average, though, certainly not universally) to be less able than the minorities who stand to benefit from affirmative action.

IV. IMPLICATIONS

Many commentators have suggested replacing race-based affirmative action with affirmative action based on one's economic background.[66] They argue that if past discrimination has made it harder for minorities to achieve the same grades or test scores as non-minorities, then there should be observable manifestations of the obstacles that a minority candidate has had to overcome.[67] Thus, if a university adjusts a candidate's grades and test scores based on the socio-economic status of her parents, the quality of her schools, and other factors, then the university will properly correct for past discrimination without considering race explicitly.[68]

The argument in the last section, however, demonstrates the insufficiency of this approach. It showed that even when an employer or university knows all the relevant information about a candidate's economic background, her race will still provide useful information about her ability. Courts need to understand that because of past discrimination, "qualifications" will have different meaning depending on a candidate's race, even when two candidates have identical economic backgrounds. As discussed above, the key reason has to do with the importance of prior probabilities in Bayes's Theorem.[69] The following example further illustrates this point: Suppose a person is described as very quiet and studious. Could you then guess whether this person is more likely to be a farmer or a librarian? Would it make a difference if you knew this person lived in Boston or in rural Iowa? Librarians may be far more likely to be quiet and studious than farmers. Farmers, on the other hand, probably greatly outnumber librarians in rural Iowa, making it much more likely that the person is a farmer. Then again, because there are fewer farmers in Boston, if the person lives in Boston she is much more likely to be a librarian.

What this example shows is that the same signal about a person can mean very different things, depending on that person's existing state of the world. The state of the world for minorities and non-minorities is very different because of the effects of past discrimination. Because non-minorities have not been subject to

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66. A slightly different color blind alternative to affirmative action has been proposed by Mark S. Nadel. Mark S. Nadel, *Retargeting Affirmative Action to Serve Those Most Harmed by Past Racism and Avoid Some Intractable Problems Triggered by* Per se *Racial Preferences* (Mar. 17, 2005) (working paper), *at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=688678. In addition to taking into account any obstacles a candidate faces and any direct diversity they bring, he also suggests reserving places in college admission for candidates committed to serving disadvantaged communities. *Id.*

67. *See generally* Schuck, *supra* note 8, at 80–81.

68. *Id.*

69. *See supra* Part III.C.

discrimination, their economic success should correlate reasonably well with their ability. Because of past discrimination, however, many very able minorities have not been able to achieve economic success.[70] Further, because economic success in one generation helps promote economic success in future generations, poor and smart minorities are likely to outnumber poor and smart non-minorities. Thus, when a student from a poor background does very well, the likelihood that this student is smart will depend on how likely it was that this student was smart before one observed their schooling outcome.[71] Since poor and smart minorities are more likely to exist than poor and smart non-minorities, the good test scores more likely signal that the student is really smart if she is a minority.[72] Prohibiting affirmative action, however, prevents a university or employer from making this correct inference. Moreover, no class-based substitute can remedy the problem because both of the students in this example are poor.

This conclusion is consistent with current empirical evidence on affirmative action programs in the private sector. Harry Holzer and David Neumark studied the affirmative action policies of over 3,200 employers and found that, in companies that practice affirmative action, minority employees do have somewhat weaker educational and labor market qualifications than white employees but that their job performance is no worse.[73] This is exactly what my model predicts: firms hire minorities who are less qualified but more able than non-minority hires, and thus, expected job performance is identical across races. Similar evidence about the effects of affirmative action in university settings is harder to come by since it is more difficult to determine the goals of a university. Nevertheless, because the inference problem a university faces is very similar to the inference problem facing a private firm, it is clear that prohibiting a university from using affirmative action will prevent the university from using the most efficient standards in admitting students for whatever goals it has.[74]

Court rulings that prohibit affirmative action based on past discrimination are doing just that because they do not understand the link between past discrimination and the meaning of current

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71. This simply follows from Bayes's Theorem. *Id.*

72. *Id.*

73. Harry Holzer & David Neumark, *Are Affirmative Action Hires Less Qualified? Evidence from Employer-Employee Data*, 17 J. LAB. ECON. 534 (1999).

74. Of course, universities may not be entirely self-interested. As a result, they may be pursuing more than just the privately optimal amount of voluntary affirmative action. As I showed above, if one has an interest in eliminating the lingering effects of past discrimination more quickly, then even more affirmative action is warranted. If universities are admitting minorities who are less successful (by whatever metric the university considers important) than non-minorities, it is probably for this reason, and thus may still be an efficient system.

qualifications. For example, the Supreme Court has stated that affirmative action programs will skew the incentives of entrepreneurs, reducing their incentives to work hard.[75] Second, they claimed that affirmative action is over-inclusive in that it helps those who were never harmed by discrimination and hurts those who never benefited from it.[76] Third, they argued that affirmative action can be unjust because it distinguishes among people based on a characteristic that is irrelevant to a person's ability to do the job.[77]

While the first claim cannot be specifically addressed by the model in the previous section, the second and third claims can. Before doing so, it is worth noting that while affirmative action will reduce incentives for some people to work hard, for others it will have the opposite effect.[78] That is, while extremely talented minorities may have less incentive to work hard because they might be able to get the job or get into the college that they want fairly easily with affirmative action, extremely talented non-minorities will have a correspondingly greater incentive to work hard. Similarly, while moderately talented non-minorities might have less incentive to work hard because even hard work may not allow them to get the job or into the college they want, moderately talented minorities will have more incentive since affirmative action combined with hard work will make such a goal possible.

The previous section demonstrates the flaws of the other two criticisms from *Croson*. Because parental investments are an important part of a child's success in school, discrimination has long lasting effects.[79] Even when discrimination was widespread, however, not all minorities suffered equally and it is impossible today to tell whose ancestors were discriminated against the most. Thus, affirmative action will never be perfectly tailored to overcome past discrimination. Nevertheless, because almost all African-Americans have suffered a great deal from discrimination, affirmative action for this group probably helps very few people whose economic status has not been affected by discrimination against their ancestors. Furthermore, to the extent discrimination made non-minorities more valuable in the past, it likewise improved the economic status of their children, giving them significant educational advantages.

Where this model is most on point is with respect to the third criticism. It shows that race provides very relevant information for employers as to a potential employee's productivity for a given job.

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75. City of Richmond v. J.A. Croson Co., 488 U.S. 469, 489 (1989).

76. *Id.* at 515–16.

77. *Id.* at 505.

78. *See* Glenn C. Loury, *Incentive Effects of Affirmative Action,* 523 ANNALS AM. ACAD. POL. & SOC. SCI. 19–29 (1992).

79. *See* Boggess, *supra* note 32, at 219.

While race itself does not affect productivity, the last section illustrated how past discrimination makes race relevant for estimating a person's unobservable ability. Is this unjust? While the answer to that question necessarily depends on one's definition of justice, it certainly is not the case that affirmative action makes minorities better off than non-minorities. A minority with worse qualifications may get a job or a place in a university over a non-minority with better qualifications, but in reality a much higher percentage of these positions go to non-minorities than to minorities.[80] Because of past discrimination, more able minorities are poorer than less able non-minorities. Under optimal voluntary affirmative action, firms or universities use this fact to choose the best candidates. Because of the continuing effect of past discrimination, the best candidates are, more often than not, non-minorities, but not quite as frequently as a color-blind analysis of qualifications would suggest. Under affirmative action, it is an advantage, given one's ability and economic background, to be born a minority. But it is also an advantage to be born with a good economic background, and this is an advantage that, because of past discrimination, non-minorities are much more likely to receive. Even with affirmative action, the second advantage outweighs the first.[81]

This fact may provide a way to recast the past discrimination argument so that it is persuasive to the Courts. Although past discrimination makes affirmative action efficient, this is because the present effects of past discrimination make minorities who may appear otherwise identical to non-minorities better candidates for admission to a university or for a job. The fact that there is no other way for a university or employer to choose the best candidates without considering race makes this argument for affirmative action much more concrete and persuasive.

Moreover, because universities are very committed to affirmative action, the inefficiency that will result from prohibiting admissions committees from using affirmative action may be even greater than the model in Part III suggests. The reason for this relates to a standard conservative criticism of government regulations, the "law of unintended consequences."[82] As Peter Schuck has pointed out, where universities have been prohibited from using affirmative action, they have not continued to use their old admissions policies without the racial preferences component. Instead, they have manipulated their admissions criteria to maintain as high a minority enrollment level as possible without violating the

80. *See* BOK & BOWEN, *supra* note 18.

81. See Wickelgren, *supra* note 37, at 28 (illustrates a technical proof of this claim).

82.   Rob Norton, *Unintended Consequences*, THE CONCISE ENCYCLOPEDIA OF ECONOMICS *at* http://www.econlib.org/library/Enc/UnintendedConsequences.html.

affirmative action prohibition. [83] Schuck provides a description of the strategies used in California and Texas.[84] The result is that California admitted the same percentage of under-represented minorities in 2001 as it did in the last year that affirmative action was allowed.[85] The Texas approach to circumventing the affirmative action ban has been less successful so far.[86] Nevertheless, given their strong commitment to achieving a significant minority presence on campus,[87] it is likely that they will continue to alter their admissions policies until they reach an outcome close to what the University of California has achieved.

However, because they cannot use race explicitly, these new ways to maintain minority enrollment will also necessarily lead to admission of less qualified non-minorities who share the characteristics that the university is using to pick out minority candidates. By the same token, some minority candidates who are more qualified than those admitted under the new policies may be rejected because they do not have the characteristics the university is using to pick candidates.[88] That is, the admissions policies may be less meritocratic than before. At the very least, the new strategies for increasing minority enrollment will be much less efficient than standard affirmative action because they can no longer perfectly select the most qualified candidates, whether minority or not. This is certainly not the result that opponents of affirmative action were hoping to achieve.[89]

V.   CONCLUSION

Many opponents of affirmative action believe that affirmative action creates inefficiency.[90] This paper shows this belief to be incorrect. Because of the inefficient distortions of the correlation between ability and wealth that past discrimination causes, race-based affirmative action is necessary for efficiency. Any alternative to race-based affirmative action, including affirmative action based purely on economic disadvantage, will necessarily impede the ability of a university to admit the best students. This inefficiency will be only compounded by the fact that universities that are strongly committed to affirmative action will alter their admissions policies in

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83. Schuck, *supra* note 8, at 74.
84. *Id.*
85. *Id.* at 74–75.
86. *Id.* at 74.
87. *Id.*
88.   Jimmy Chan & Erik Eyster, *Does Banning Affirmative Action Lower College Student Quality*, 93 AM. ECON. REV. 858 (2003).
89. *Id.* at 858–59.
90. *See* Holzer & Neumark, *supra* note 5, at 534–35.

order to achieve a racially diverse university in ways that are necessarily less efficient than if they had simply considered race directly.