

Affirmative Action: More Efficient than Color Blindness

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Abstract

One of the most compelling reasons against affirmative action is the principle of color blindness, that is, the idea that race is an irrelevant characteristic that should not affect higher education admissions or hiring decisions. Despite its intuitive appeal, this paper shows that adherence to this principle impedes economic efficiency when there has been past discrimination based on color. Past discrimination creates inefficiencies in the economy that persist across generations. Because of this persistence, race is not an irrelevant characteristic for firms and universities looking to hire or admit the best candidates. Affirmative action, not color-blindness, is necessary to reduce or eliminate these inefficiencies. This is true even if the firm or university can observe the economic status of the applicant. That is, affirmative action based on economic disadvantage does not eliminate the need for affirmative action based on race, even if one is only concerned about economic efficiency.

I. Introduction

Recently, perhaps more than at any time since its inception, affirmative action has been under attack both in the judiciary and in state governments and 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 at the University of Texas and the University of Georgia were declared unconstitutional by the Fifth and Eleventh Circuits respectively.³ In 1995, the University of California Board of Regents decreed that race could not be a factor in university admissions. Proposition 209 in California (passed in 1996) and Initiative 200 in Washington (passed in 1998) prohibit the government from giving preferential treatment based on race (and other factors) in employment, education, or contracting. Such actions should not be surprising given the lack of public support for affirmative action. A large majority of Americans as a whole, including over 30 percent of African-Americans and over 70 percent of Hispanic-Americans, oppose affirmative action.⁴

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

¹ Grutter v. Bollinger et al. (Slip Opinion).

² Gratz v. Bollinger et al. (Slip Opinion). The district court in *Grutter* found the law school's admissions policy unconstitutional in *Grutter v. Bollinger* 137 F. Supp. 2d 821 (E.D. Mich 2001). This decision was reversed by the Sixth Circuit Court of Appeals, *Grutter v. Bollinger* 288 F.3d 732 (6th Cir. 2002). The district court in *Gratz v. Bollinger* 122 F. Supp.2d 811 (E.D. Mich. 2000) found for the University, the Supreme Court granted certiorari before judgment.

³ See *Hopwood v. Texas* 236 F. 3d 256 (5th Cir. 2000) and *Johnson v. Bd. of Regents of the Univ. of Georgia* 263 F.3d 1234 (11th Cir. 2001).

⁴ Jack Citrin, *Affirmative Action in the People's Court*, Public Interest 39, 43-44 (Winter 1996).

support,⁵ in this paper I demonstrate that adherence to this principle impedes economic efficiency⁶ when there has been past discrimination based on color. This result holds even if this past discrimination occurred in prior generations and no one alive today has been the direct victim of discrimination.⁷

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. Because of the persistence of these inefficiencies, race is not an irrelevant characteristic for firms and universities looking to hire or admit the best candidates. In fact, race is still relevant even if the firm or university can observe the economic status of the candidate. That is, affirmative action based on economic disadvantage does not eliminate the need for affirmative action based on race, even if one is only concerned about economic efficiency.

The primary purpose of this paper is to present an argument that affirmative action is necessary for efficiency, not to suggest that this argument implies that affirmative action is necessarily constitutional. That said, the fact that universities cannot implement an efficient, non-discriminatory, admissions policy without taking race into account does make the state interest in affirmative action more compelling. While the reason that affirmative action is efficient is due to past discrimination, the justification that this paper provides for using

⁵ See Nancy DiTomaso, Rochelle Parks-Yancy and Corinne Post, *White Views of Civil Rights and Equal Opportunity: Colorblindness, Qualifications, and Quotas*, 2002, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=320361.

⁶ 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.

⁷ I do not claim that discrimination has been eliminated. 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.

affirmative action is that it is necessary to improve the quality of a firm's hires or a university's students. Since improving the quality of the student body improves the education of all the students, this justification for affirmative action is similar in effect to the diversity justification that universities use today. This suggests that if diversity is a constitutionally acceptable justification for affirmative action, economic efficiency should be also.

In the next section, I suggest that new arguments for affirmative action might be valuable given that the standard legal arguments universities use to defend affirmative action are not seen as reflecting the dominant motivations for using affirmative action. Section III develops the argument for why past discrimination justifies current affirmative action. This section is divided into several subsections. Subsection A provides an overview of the argument. Subsection B describes the model I use to analyze affirmative action. Subsection C analyzes the model. Subsection D derives the result that allowing firms and universities to use race-based affirmative action is necessary for efficiency. Subsection E explores why it might sometimes be efficient to induce even more affirmative action than self-interested firms and universities would pursue on their own. Section IV discusses the implications of the results, and Section V concludes.

II. Legal Focus v. Actual Justifications and Practice

Due primarily to Justice Powell's opinion in *Bakke*,⁸ universities have tried to justify their affirmative action programs on the grounds that they are necessary to promote diversity. While this diversity rationale may be necessary for affirmative action programs to overcome judicial scrutiny, as Samuel Issacharoff has recently pointed out,⁹ concern for diversity is not the primary reason that universities actually practice affirmative action. For example, while the

⁸ *Regents of the Univ. of Calif. v. Bakke*, 438 U.S. 265 (1978).

⁹ Samuel Issacharoff, *Law and Misdirection in the Debate Over Affirmative Action*, 2002 University of Chicago Legal Forum 11 (2002).

University of Georgia considers 12 different factors that might contribute to a diverse student body, race receives more weight than any other factor other than academic achievement.¹⁰ The court, in *Johnson v. Bd. of Regents of the Univ. of Georgia*,¹¹ found that the admissions policy “contemplates that non-white applicants will be admitted or advance further in the process than white applicants with a greater potential to contribute to a diverse student body.”¹² Similarly, the University of Michigan Law School acknowledged in *Grutter et al. v. Bollinger et al.*¹³ that its goal was to have a sufficient enrollment of racial and ethnic minorities.¹⁴

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. What the foregoing cases make clear, however, is that the benefits of a diverse student body is but a small part of why universities give preferences to racial and ethnic minorities. Clearly, admissions committees place much greater weight on race than on any other trait that could make the student body more diverse. 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.

Almost no one denies that this country has only recently emerged from an era where discrimination was ubiquitous. William Bowen and Derek Bok’s recent book provides an excellent description of the magnitude of the discrimination faced by African-Americans in the not too distant past.¹⁵ This history provided the initial justification for affirmative action,¹⁶ and

¹⁰ *Johnson v. Bd. of Regents of the Univ. of Georgia* 263 F.3d 1234 (11th Cir. 2001).

¹¹ *Ibid.*

¹² *Johnson v. Bd. of Regents of the Univ. of Georgia* 263 F.3d 1234, 1250 (11th Cir. 2001).

¹³ *Grutter v. Bollinger*, 137 F. Supp. 2d 821 (E.D. Mich 2001).

¹⁴ *Grutter v. Bollinger*, 137 F. Supp. 2d 821, 842 (E.D. Mich 2001).

¹⁵ William G. Bowen and Derek Bok, *The Shape of the River*, Princeton University Press, Princeton, NJ, 1998

is likely the most compelling justification for most current supporters of affirmative action, only they cannot admit it because this justification is invalid in the eyes of the Supreme Court.¹⁷ The *Wygant*¹⁸ decision makes it clear that institutions cannot use historical discrimination as a defense for using affirmative action in the present. Similarly, under the Supreme Court decision in *Croson*,¹⁹ appealing to past discrimination is not sufficient to justify affirmative action.²⁰

These holdings are unfortunate because, as the following section shows, 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 is prohibiting it from acting as a 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.²¹ Of course, I am not suggesting that this is the only valid

¹⁶ See Samuel Issacharoff, *Law and Misdirection in the Debate Over Affirmative Action*, 2002 University of Chicago Legal Forum 11, 28 (2002).

¹⁷ Issacharoff makes the point that the *Bakke* decision forced the debate over affirmative action to be a debate about diversity rather than about correcting the injustice caused by past discrimination. See Samuel Issacharoff, *Law and Misdirection in the Debate Over Affirmative Action*, 2002 University of Chicago Legal Forum 11, 18 (2002)

¹⁸ *Wygant v. Jackson Bd. of Ed.*, 476 U.S. 267 (1986).

¹⁹ *City of Richmond v. J.A. Croson Co.*, 488 U.S. 469, 498-99 (1989).

²⁰ That said, Ian Ayres and Frederick E. Vars have recently argued that *Croson* does allow the government to use affirmative action to remedy private discrimination. See Ayres and Vars, *When Does Private Discrimination Justify Public Affirmative Action*, 98 Columbia Law Review 1577 (1998). Given that *Croson* explicitly repudiates affirmative action based on past discrimination, this must only apply to using affirmative action to remedy current private discrimination.

²¹ A somewhat related argument was presented by Martin J. Katz in *The Three Fallacies of Croson*, 100 Yale L.J. 1033 (1991). He says 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. He claims this can even have effects across generations if parents leave their business to their children or if the lower wealth of minority children makes it harder for them to start businesses. Aside from different settings for our models, the key difference between our models is that my model demonstrates that the disadvantage due to past discrimination

argument, based on economic analysis or otherwise, for affirmative action.²² Nor does it mean that there are not valid arguments against affirmative action. 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 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 leads to inefficiency because it leads to admitting/promoting/hiring a less qualified applicant. My argument takes this source of inefficiency into account, so that the conclusions that some affirmative action is efficient holds even though 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 occurs 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 occurs when the government provides incentives to firms or schools to give additional preferences to members of groups that

actually makes some affirmative action efficient. His article demonstrates that affirmative action is necessary to redress past discrimination but not that such redress is efficient.

²² For other economic arguments for affirmative action, see Kim-Sau Chung, *Role Models and Arguments for Affirmative Action*, 90 *American Economic Review* 640 (2000) and Susan Athey, Christopher Avery, and Peter Zemsky, *Mentoring and Diversity*, 90 *American Economic Review* 765 (2000).

suffered from past discrimination. I will show below that completely self-interested firms or educational institutions should practice voluntary affirmative action due to past discrimination. Of course, since many educational institutions are public, if public affirmative action is prohibited, then these universities are prohibited from practicing voluntary affirmative action that private universities and firms find in their best interest. Moreover, I also show that even if all firms and educational institutions are free to practice voluntary affirmative action, if they are completely self-interested (though, harboring no discriminatory animus), there will still be an insufficient amount of affirmative action, under certain conditions, strictly from the point of view of 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, determine her success in school. This is her first stage outcome. In the second stage, employers or universities (depending on whether one is thinking about affirmative action in employment or higher education) observe this first stage outcome (schooling success), the person's race, and maybe something about her family's economic background. Using this information, employers or universities decide whether or not to offer this person a position (job or admission to school). I focus on the case where firms (I will use the terms employer and firm interchangeably) 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. For universities, defining their self-interest is a little 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 and 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 in 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 just have one ability that affects their performance in all jobs or universities. I condense these many different abilities into one for 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 different abilities as long as some people's collection of abilities make it easier for them to do better in school and get better jobs than other people's collection of abilities. Similarly, the assumption that one score precisely defines the outcome of a person's success in school is a simplification, but not one that drives the results. What is important is that firms or universities can observe a student's records and agree (at least in most cases) 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.

While these simplifying assumptions do not drive the result that affirmative action improves economic efficiency, like any economic analysis (or, any analysis for that matter), 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;
2. A person's ability is positively correlated with her parents' ability;²³
3. The wealth of a person's family affects her success in school;
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);
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.²⁴

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. That said, 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 or grand-parents or great-grand-parents, etc.

While the argument requires a positive correlation in ability across generations (Assumption 2), this assumption does not require strict genetic determinism. First, the method of

²³ Positive correlation means that, on the average, higher ability parents tend to have higher ability children.

²⁴ Identical ability distributions means that the chance that any randomly selected person has any given ability does not depend on that person's race.

this correlation need not be genetic (though it certainly could be). One feature of being high ability could be that one is better able to teach one's children what they need to know to be high ability.²⁵ 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, any degree of positive correlation will make at least some affirmative action efficient. 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, *ceteris paribus*, having wealthier parents makes it more likely that a child will do well in school. It is important, however, that this effect occurs independently of any correlation in ability. Parental wealth could 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 all wealthier families spend more money on these investments than do all less wealthy families. What is important is that it holds on average. 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. The assumption guarantees that past discrimination will continue to impact a person's descendants even if those descendants do not suffer discrimination themselves.

²⁵ 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.

Assumption four is that both ability and schooling success contribute to high performance in a job or in a university. Of course, because ability is unobservable, schooling success is valuable in two ways. First, it is useful in its own right. Second, it provides an imperfect signal of ability, which is also valuable. While not particularly controversial, this assumption is important because if schooling success were only valuable as a signal of ability, then (as will become clear below) the effects of past discrimination would be quickly eliminated by a short period of voluntary affirmative action. Externally-induced affirmative action would never be necessary. At the other extreme, if ability had no independent effect on performance (it only mattered through its affect on schooling success), 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 and the schooling success of one's ancestors, says that while one's past successes or failures may be partially, or even largely, explainable by one's ability and family background, they are not entirely deterministic. That is, a firm or a university cannot look at a person's family background and how well she did in school and thereby say with total confidence exactly how able she is. Either there are some unobservable factors which create schooling success or there is some inherent randomness. It is not hard to think of examples which 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 (if known) and 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.²⁶ 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,

²⁶The Heisenberg Uncertainty Principle from quantum mechanics suggests that things cannot be perfectly predicted even if one knows all the underlying factors with certainty.

then race would never be useful. If there is some uncertainty, however, then, 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. That is, 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 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. Of course, one should not expect this to produce perfect correlation between wealth and ability due to assumption five (randomness). While more able people will tend to do better in school than less able people of similar family background, the randomness in the world will mean that in some cases the reverse will occur. Nonetheless, in the absence of discrimination, more able people will, on the average, be wealthier than less able people of similar family background. Because more able people tend, on the average (though not in every case), 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 (but imperfect) positive correlation between wealth and ability should develop.

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 one manifestation is that firms or universities that discriminate have a general preference for non-minorities over minorities. During the time of slavery, this preference was in some sense absolute, at least in the American South, in that no African-American would ever receive a better job than a White-American no matter how much more productive the African-American might have been. More recently, however, discrimination against minorities was not absolute. Firms or universities had preferences for non-minorities, but they would not indulge these preferences at any cost.²⁷

For discrimination to exist, however, it must be that these firms and universities would accept lower quality applicants to hire or admit a non-minority rather than a minority. The consequence of these non-absolute preferences for discrimination is that 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 her job or university performance to exceed that of a non-minority by some non-trivial amount. Because this performance is determined (in part) by schooling success and ability, a successful minority candidate must have done better in school or appear to be more able or both than would have been required had she been a non-minority. Of course, the only way that a minority could do better in school than a non-minority but not have higher expected ability (though not necessarily higher actual ability, due to the randomness in

²⁷ 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.

schooling success) is if her parents were wealthier than the parents of the non-minority.²⁸ Since minorities are discriminated against, however, this will usually not be the case, implying that on the average, a minority that suffered from discrimination is probably higher ability than a non-minority with the same quality job or university degree. Since getting a better job or getting admitted to a better school means earning more money, this suggests that when there is discrimination, a minority with the same wealth as a non-minority has, on the average, a higher ability.

Another way to understand this is to notice that discrimination means that minorities are held to a higher standard than non-minorities. As a result, if a minority has reached the same position as a non-minority and the minority had to overcome discrimination that the non-minority did not, then 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 some non-minority, the minority is, on the average, 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. Within each race, there will be a correlation between ability and wealth just as there was in the no-discrimination case. But at any given level of wealth, the average ability of a minority will exceed the average ability of a non-minority since the minority had to be more productive to reach that level than did the non-minority. By the same token, the average wealth of a non-minority of any given ability level will exceed the average wealth of a minority of similar ability.

²⁸ 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.

Now that the effects of discrimination are evident, consider what happens when discrimination ends. Of course, in reality discrimination never ends all at once. It may gradually fade away or it may end in some areas while it persists in other. Nevertheless, examining what happens if discrimination ends all at once is instructive. If affirmative action is optimal even when there is no more discrimination anywhere in the economy, it will certainly be optimal if there remains some pockets of discrimination. 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 is positively correlated with her parents' ability, if one's parent's were discriminated against, the same facts that applied to the relationship between wealth and ability by race for one's parents also apply to their children (before they have earnings of their own). A minority child of parents of a given wealth level will be, on average, higher ability than a non-minority child whose parents have the same wealth level. Because they have the same level of parental wealth but the minority child is likely to have higher ability, we should expect that the minority child will do better in school. Again, it is important to point out that this is assuming no (more) discrimination. If there remains some discrimination which causes minority children to do worse in school than non-minority children even when they have similar ability and parental wealth, then this would not hold. While the existence of such discrimination in no way undermines this argument for affirmative action, I am assuming it does not exist for simplicity and to isolate the past discrimination argument for affirmative action.²⁹

While a minority child will on the average do better in school than a non-minority child when their parents have equal wealth, this will not hold in every case. There are two primary

²⁹ Such schooling discrimination would imply that schooling success signals ability differently for different races, but the signal would remain informative for both. It would have other effects similar to the effects of employment or university discrimination.

reasons for this. The first is that, while minority children will, on average, be of higher ability than non-minority children whose parents have equal wealth, there will be cases where this will not hold.³⁰ Second, even if the minority child is more able, ability and parental wealth do not perfectly predict schooling success. On average, between two children whose parents are equally wealthy, the more able child will do better in school, but because of randomness in the schooling success outcome, this will not hold in all cases. It is this second reason that ensures that race is useful information for a firm or university even if that firm or university is non-discriminatory.

Recall that, when there is discrimination, minorities of a given wealth level are more able, on average, than non-minorities with the same wealth. Because of a mathematical fact known as Bayes' Theorem,³¹ this means that minorities with a given wealth level and a given schooling success outcome are more able, on average, than non-minorities with the same wealth level and schooling success outcome. That is, the fact that firms and universities can observe a person's schooling success does not mean that they can now ignore race when trying to predict ability. This point is absolutely essential to the result that affirmative action is efficient. That said, one cannot criticize the result by criticizing this claim. Bayes' Theorem is an accepted mathematical fact. If discrimination causes minorities to be more able than non-minorities (on average) 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, on

³⁰ 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.

³¹ Bayes' 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' Theorem says that the updated probability is proportional to the prior probability (the probability of the event before the new information existed) and the likelihood of getting this new information given that the fact is true. The important consequence for this analysis is that the prior probability matters unless the new information tells one for sure whether or not the fact is true.

average, higher ability than a non-minority when these two people have the same schooling success and parental wealth. In fact, the minority will, on average, have higher ability even if the non-minority's schooling success outcome was slightly better than that of the minority.

D. Voluntary Affirmative Action

This is why 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 all information that can help it predict ability accurately. If there has been no discrimination, race provides no useful information since distribution of ability is the same for both races. Similarly, if all the firm or university knew about an applicant was her race, race would convey no information about ability for the same reason. But, past discrimination implies that the joint distribution of ability *and* wealth does differ by race. And, since wealth affects schooling success, this also implies that the distribution of ability and schooling success differs by race. So, if the firm or university knows an applicant's schooling success and her parent's wealth, or even if it only knows her schooling success, then minorities who appear otherwise identical to non-minorities will, on average, have higher abilities. As a result, a non-discriminatory but purely self-interested firm or university will prefer a minority over a non-minority, *ceteris paribus*. In fact, even if the minority's qualifications (success in school) are slightly worse than the non-minority's, the firm or university will still prefer the minority. This is voluntary affirmative action since race is a positive factor in a firm's or university's decision. Since this affirmative action is done voluntarily by a self-interested firm or university, it is clearly efficient so long as the goals of that firm or university are not contrary to societal goals.

In general, this is the case, and 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. To see that it will persist for more generations, let's examine 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. Yes, the minority children would do worse in school because their parents were poorer, but firms and universities would be able to take this into account when estimating a candidate's expected ability using her schooling success outcome. Because they can estimate a minority's ability just as well as a non-minority's ability, non-discriminatory firms and universities will hire/admit the applicants with the highest expected ability. After this occurs, in the next generation the relationship between ability and wealth would be identical across races since achieved position depends only on ability.

If, however, firms and universities care about both schooling success and ability, then one period of voluntary affirmative action will not eliminate the effects of past discrimination. To see this, notice that while a firm will prefer a minority over a non-minority who is equally qualified (in the sense of having the same observable characteristics), a firm (or university) will also, on the average, be more likely to give a position to a non-minority over a minority of equal expected ability. The reason is that, because of past discrimination, 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. As a result, the non-minority will, on the average, do better in school. Thus, the firm or university will be comparing two candidates with equal expected ability but unequal schooling

success. Naturally, even if it is non-discriminatory, the firm or university will prefer the applicant with the better schooling success outcome since she will be more productive.

So, when both ability and schooling success affect job or university performance, minority and non-minority candidates of equal expected performance are systematically different. The minority candidates with a given expected performance level tend to be of higher ability but with worse schooling outcomes than the non-minorities whose expected ability and schooling outcomes together produce the same expected performance. Since expected performance is what determines wealth, this means that even though they have not directly suffered from discrimination, minorities of a given wealth level will tend to be more able than non-minorities who reach the same wealth level. Because there is no discrimination, this difference is less pronounced than when there was direct discrimination, but it still exists. This means that the second post-discrimination generation is in the same position, qualitatively though not quantitatively as the first. Repeating the same argument, the subsequent generations will again be in qualitatively the same position. Thus, since voluntary affirmative action is efficient for the first post-discrimination generation, it is efficient for all subsequent generations.

Of course, over time the impact of past discrimination slowly disappears. This makes the optimal amount of voluntary affirmative action decline over time as well. That said, as long as firms and universities do not ever judge candidates solely on their ability, but always also care directly about their schooling success, the impact of past discrimination will never completely disappear, implying that at least some voluntary affirmative action will continue to be efficient. After many generations, however, it is likely that the lingering effects of past discrimination will be 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 or admit the best applicants. Firms and universities use race as a factor because it provides useful information about a candidates' expected ability. The reason that voluntary affirmative action persists over time is because voluntary affirmative action does not eliminate the effects of past discrimination, it only reduces their magnitude. Firms and universities (if they are entirely self-interested) only have the incentive to go part way towards eliminating the lingering effects of past discrimination because schooling success has a direct effect on job or university performance. To completely eliminate the effects of past discrimination, positions would have to be awarded based solely on expected ability. Since schooling success independently affects job performance, a firm that did this would not be hiring the workers that maximize its current profit (and, similarly, a university would not be admitting the best students).

If society has an independent interest in eliminating the lingering effects of past discrimination, beyond any direct effects on current firm profits or university objectives, however, then the voluntary affirmative action practiced by firms and universities will be insufficient. To the extent that these entities are entirely self-interested, they will not consider the broader social objective of increasing the speed with which the lingering effects of past discrimination are eliminated. There may be many reasons why society might have such an objective. Most of these reasons are undoubtedly the subject of intense debate, and, as such, are beyond the scope of this paper. Because I want to focus purely on economic efficiency justifications for affirmative action, this section advances some reasons why it might be more efficient to have wealth and ability more highly correlated. Since 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 the interpretation of the theory described above that has firms making hiring decisions. Obviously, different firms hire workers for different jobs. These different jobs make use of ability and schooling success differently. For almost all 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. But, this difference in performance due to greater ability or more knowledge is certainly different for different jobs. 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. A high ability lab technician will perform many tasks better than a low ability lab technician, but the difference in productivity will pale in comparison to the difference when these people are research scientists. While it is certainly the case that different jobs put a premium on different kinds of ability and knowledge, it is undeniable that jobs differ in the premium attached to ability and knowledge in general.

Because of this fact, society as a whole may be more productive when high ability people are also high knowledge people. Consider the following simple example where there are only two types of jobs: skilled and unskilled jobs. In the skilled jobs, ability and schooling success make a worker more productive. In the unskilled jobs, all workers are equally productive. In such a situation, workers who would not be very productive in the skilled job work in the unskilled sector. For these workers, ability and schooling success are not valuable. Thus, if a worker of medium ability had very poor parents and ended up with quite low schooling success, she will probably work in the unskilled job. A worker of slightly lower ability with rich parents might do quite well in school and so be productive enough to land a skilled sector job. Such an

arrangement is clearly less efficient than if the worker of higher ability had the wealthier parents and the lower ability worker had the poor parents. The reason is that now the skilled worker (the medium ability worker whose parents are now rich) will be more productive than the skilled worker in the prior arrangement (the lower ability worker with rich parents) because she is of higher ability and because her higher ability will likely make her schooling success greater. The unskilled worker now has lower ability and probably a lower schooling success score than before (because now the unskilled worker is of lower ability), but since she is in the unskilled job, this does not affect her productivity. This simple example illustrates the more general point: when jobs differ in how much more productive a worker is who is a little more knowledgeable or a little more able, then workers can be matched to jobs more efficiently when their knowledge is commensurate with their ability.³² A high correlation between ability and wealth will make it much more likely that workers have knowledge commensurate with their ability since then the factors that contribute to knowledge (ability and parental wealth) will be similar.

Another reason why a high correlation between ability and wealth might be efficient is that ability and wealth might be complements in generating schooling success. A high ability person might be better able to take advantage of parental investments in education. For example, a high ability child might, on the average, 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. The reason is that then high ability children will be more likely to be born to wealthy parents, so they will be able to take full advantage of parental investments in education.

³² Granted, this is a very stylized example that was rigged 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.

Of course, neither of these arguments for why a high correlation between ability and wealth is efficient necessarily follow 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, one can also construct somewhat reasonable settings in which less correlation between ability and wealth is efficient. What these arguments do undeniably establish, however, is that there is no reason to believe that the correlation between ability and wealth is of no social concern. Self-interested firms and universities, however, practice voluntary affirmative action so as to hire or admit the most productive applicants, not to affect this correlation. In fact, firms and universities can only affect this correlation in the next generation. To the extent that they do change the correlation, the benefits or harms from that will accrue to all the firms and workers in the economy, thus self-interested firm or universities do not have much incentive to use affirmative action to affect this correlation in the future. So, if this relationship does matter for efficiency in the next generation, the government is the only actor who can give firms and universities the incentive to take this concern into account. The case for no government action relies on the claim that societal productivity is completely independent of the correlation of ability and wealth.

The other interesting point about the above arguments for externally-induced affirmative action is that, while they may not be persuasive to everyone, they should resonate the most with the very groups who are most opposed to affirmative action. Conservatives are much more likely to support gifted and talent programs on the grounds that society benefits from concentrating more resources on the smartest children, who are most likely to take advantage of them. Similarly, conservatives are also more inclined to believe that societal productivity is greater when people's talent is well-matched for their job.

Lastly, I should note that the efficiency arguments for externally-induced affirmative action also justify many other policies that can affect the correlation between ability and wealth. That said, to the extent that society values equality in addition to total productivity, one advantage of externally-induced affirmative action over other such policies is that externally-induced affirmative action as a response to past discrimination is probably the only policy 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. Those other policies, however, probably reduce, rather than increase, the correlation between ability and wealth. It is the combination of effects of externally-induced affirmative action that make it unique.

IV. Implications

Many commentators have suggested replacing affirmative action based on race with affirmative action based on one's economic background.³³ They argue that if past discrimination has made it harder for minorities to achieve the same grades or test scores as non-minorities, there should be observable manifestations of the obstacles that a minority candidate has to overcome. 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 the like, then the university will be properly correcting for past discrimination without considering race explicitly.

³³ A slightly different color blind alternative to affirmative action has been proposed by Mark S. Nadel in *A Tripartite, Colorblind Affirmative Action Alternative to Racial Preferences*, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=364940. 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.

The argument in the last section, however, demonstrates the insufficiency of this approach. There, I showed that even when an employer or university knows all the relevant information about a candidate's economic background and her grades and test scores, her race will still provide useful information about her ability. Courts need to understand that because of past discrimination, qualifications mean different things for different races, 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' Theorem. The following example will further illustrate this point. Say a person is described as very quiet and studious. Would you guess that 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 rural Iowa? While librarians may be far more likely to be quiet and studious than farmers, farmers probably greatly outnumber librarians in rural Iowa, making it much more likely that the person is a farmer. On the other hand, since there are many 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 when the existing state of the world is very different. The state of the world for minorities and non-minorities is very different because of past discrimination. Because non-minorities have not been subject to discrimination, economic success should be reasonably well correlated with ability. Because of past discrimination, however, many very able minorities were not able to achieve economic success. And because economic success in one generation helps promote economic success in future generations, one should not be nearly as surprised to see a poor and smart minority as a poor and smart non-minority. Of course, both are possible, but the former is more likely. Thus, when a student from a poor background does very well, the likelihood that this student is smart (as opposed to the alternative explanation that she was lucky) will depend on

how likely it was that this student was smart before one observed their schooling outcome. Since poor and smart minorities are more likely than poor and smart non-minorities, the good test scores are more likely to signal that the student is really smart if she is a minority. Prohibiting affirmative action prevents a university or employer from making this correct inference. Moreover, there is no class-based substitute that can remedy the problem since 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.³⁴ This is exactly what my model predicts: firms hire minorities who are less qualified but more able than non-minority hires (for a given job) so that, for any given job, 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. But, since 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 them from using the most efficient standards in admitting students for whatever goals they have.³⁵

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

³⁴ Harry Holzer and David Neumark, *Are Affirmative Action Hires Less Qualified? Evidence from Employer-Employee Data*, 17 *Journal of Labor Economics*, 534 (1999).

³⁵ 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 efficient.

current qualifications. For example, the Supreme Court in *Croson* argued that affirmative action programs will skew the incentives of entrepreneurs, reducing their incentives to work hard.³⁶ 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.³⁷ Third, they argued that affirmative action is unjust because it distinguishes among people based on a characteristic that is irrelevant to a person's ability to do the job.³⁸

While the first claim cannot be specifically addressed by the model in the previous section, the second and third can. Before doing so, however, it is worth pointing out that while affirmative action will reduce incentives to work hard for some people, for others it will have the opposite effect. While extremely talented minorities may have less incentive to work hard because they might be able to get the job or 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.

As to the other two criticisms of affirmative action offered in *Croson*, the previous section demonstrates their flaws. Because parental investments are an important part of a child's success in school, discrimination has long lasting effects. Of course, even when discrimination was widespread, not all minorities suffered equally and it is impossible today to tell whose ancestor's were discriminated against the most. So, affirmative action will never be perfectly tailored to overcoming past discrimination. Nonetheless, given that, in the recent past, almost all

³⁶ 488 U.S. at 489.

³⁷ 488 U.S. at 515-16 (Stevens, J., concurring).

³⁸ 488 U.S. at 505.

African-Americans 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. By the same token, to the extent discrimination made non-minorities more valuable in the past, it improved the economic status of their children, which gave them significant educational advantages.

Where this model is most on point, however, 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. While race itself does not affect productivity, the last section demonstrated how past discrimination makes it 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. Yes, a minority with worse qualifications may get a job or a place in a university over a non-minority with better qualifications, but, according to the model and in reality, a much higher percentage of non-minorities get these positions than minorities. The reason is that, 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 looking at qualifications, while ignoring race, 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.

This fact may provide a way to recast the past discrimination argument so that it might be persuasive to the Court. While the preceding section showed that past discrimination makes affirmative action efficient, the reason is because the present effects of past discrimination make minorities, who 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, besides taking a candidate's race into consideration, for a university or employer (including a government employer) to choose the best candidates may make this argument for affirmative action much more concrete and persuasive.

Moreover, because universities, in particular, 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 Section III suggests. The reason is related to a standard conservative criticism of government regulations, the "law of unintended consequences." 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 affirmative action prohibition.³⁹ Schuck provides a good description of the strategies used in California and Texas.⁴⁰ The result is that California has admitted the same percentage of under-represented minorities in 2001 as it did in the last year that affirmative action was allowed. The Texas approach to circumventing the affirmative action ban has been less successful so far.⁴¹ Nevertheless, given their strong commitment to achieving a significant minority presence on campus, there can be no doubt that they will continue to change their admissions policies until they reach an outcome close to what the University of California has achieved.

³⁹ Peter H. Schuck, *Affirmative Action: Past, Present, and Future*, 20 *Yale Law and Policy Review* 1, 74 (2002).

⁴⁰ *Ibid.*

⁴¹ *Ibid.* at 74-75.

Because they cannot use race explicitly, however, these new ways to maintain minority enrollment will necessarily also 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 that make them appear likely to be minority. That is, universities' admissions policies may be less meritocratic than before. At the very least, the new strategies for increasing minority enrollment are much less efficient than standard affirmative action since they can no longer perfectly select the most qualified minority candidates, nor even the most qualified non-minority candidates. This is certainly not the result that opponents of affirmative action were hoping to achieve.

V. Conclusion

Many, if not most, supporters of affirmative action believe that affirmative action does sacrifice some efficiency, at least in the short run. Certainly, this belief is held by almost all affirmative action opponents. This paper shows that this belief is incorrect. Because of the inefficient distortions in the correlation of 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 is only compounded by the fact that universities that are strongly committed to affirmative action will alter their admissions policies to try to achieve a racially diverse university in ways that are necessarily less efficient than considering race directly.