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## THE CAUSES AND CONSEQUENCES OF DISTINCTIVELY BLACK NAMES\*

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In the 1960s Blacks and Whites chose relatively similar first names for their children. Over a short period of time in the early 1970s, that pattern changed dramatically with most Blacks (particularly those living in racially isolated neighborhoods) adopting increasingly distinctive names, but a subset of Blacks actually moving toward more assimilating names. The patterns in the data appear most consistent with a model in which the rise of the Black Power movement influenced how Blacks perceived their identities. Among Blacks born in the last two decades, names provide a strong signal of socioeconomic status, which was not previously the case. We find, however, no negative relationship between having a distinctively Black name and later life outcomes after controlling for a child's circumstances at birth.

### I. INTRODUCTION

On May 17, 1954, the landmark Supreme Court decision in *Brown v. Board of Education of Topeka, Kansas* ruled, unanimously, that segregation in public schools was unconstitutional.

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This ruling paved the way for the fall of Jim Crow and large-scale desegregation. In the 1960s a series of further government actions were taken with the goal of achieving racial equality and integration, most notably the Civil Rights Act of 1964, Executive Order 11246 in 1965, and the Fair Housing Act of 1968. The civil rights movement arguably represents one of the most profound social transformations in American history [Woodward 1974; Young 1996].

Nonetheless, an enormous racial divide persists. There are large disparities between Blacks and Whites in the United States on many indicators of social and economic welfare including income [Bound and Freeman 1992; Chandra 2003; Heckman, Lyons, and Todd 2000; Smith and Welch 1989], educational achievement [Jencks and Phillips 1998], out-of-wedlock child-bearing [Ventura and Bachrach 2000], health (see Kington and Nickens [2001]), and criminal involvement [Reno et al. 1997]. The degree of residential segregation by race, though lower today than in 1970, remains high [Cutler, Glaeser, and Vigdor 1999; Massey 2001].

Racial differences also persist, and in some cases have become even more pronounced, on a wide range of cultural dimensions including musical tastes [Waldfoegel 2003], linguistic patterns [Wolfram and Thomas 2002], and consumption choices. For instance, the cigarette brand Newport has a 75 percent market share among Black teens, but just 12 percent among White teen smokers; 65 percent of White teens smoke Marlboro compared with only 8 percent of Blacks [Johnston et al. 1999]. *Seinfeld*, one of the most popular sitcoms in television history among whites, never ranked in the top 50 among Blacks. Indeed, of the top ten shows with the highest viewership among Whites during the 1999–2000 television season, only one show was also among the top ten for blacks: NFL Monday Night Football (Nielsen Media Research: <http://www.nielsenmedia.com/ethnicmeasure/>).

Understanding whether cultural differences are a *cause* of continued economic disparity between races is a question of great social importance. Cultural differences may be a cause of Black economic struggle if Black culture interferes with the acquisition of human capital or otherwise lowers the labor market productivity of Blacks (as argued in the culture of poverty paradigm in sociology; see Hannerz [1969], Lewis [1966], Riessman [1962], and implicitly, Anderson [1990]). For instance, high-achieving Black children may be ostracized by their peers for “acting white,” potentially leading to lower investment in human capital

[Fordham and Ogbu 1986; Austen-Smith and Fryer 2003]. Speaking “Ebonics” may interfere with the ability to interact with White coworkers and customers, or disrupt human capital acquisition more directly [Orr 1989]. On the other hand, the presence of a Black culture may simply be the *consequence* of past and current segregation and economic inequality, but play no role in perpetuating economic disparity. If differences in tastes do not influence human capital acquisition or labor market productivity, then there is little reason to believe that such tastes will have a causal negative economic impact on Blacks. For example, “soul food” [Counihan and Van Esterik 1997] and traditional African-American spirituals [Jackson 1944] can be traced to the social conditions endured during slavery, but are unlikely to be causes of current poverty. Eliminating cultural differences in this scenario would have no overall impact on Black welfare relative to Whites.

A primary obstacle to the study of culture has been the lack of quantitative measures. In this paper we focus on one particular aspect of Black culture—the distinctive choice of first names—as a way of measuring cultural investments.<sup>1</sup> Our research builds upon a growing literature by economists devoted to understanding a diverse set of social and cultural phenomena [Akerlof and Kranton 2000; Berman 2000; Fryer 2003; Glaeser, Laibson, and Sacerdote 2002; Iannaccone 1992; Lazear 1999]. In contrast to these earlier papers, however, our contribution is primarily empirical.

Using data that cover every child born in California over a period of four decades, our analysis of first names uncovers a rich set of facts. We first document the stark differences between Black and White name choices in recent years.<sup>2</sup> For example, more than 40 percent of the Black girls born in California in recent years received a name that not one of the roughly 100,000 White girls born in California in that year was given.<sup>3</sup> Even

1. Other than the audit studies of resumes discussed below, the only other economic analysis of name choices that we are aware of is Goldin and Shim [2003] which examines the issue of women retaining their maiden names at marriage. The seminal work on names outside of economics has been done in a series of papers by Stanley Lieberman and coauthors, culminating in Lieberman [2000].

2. There are multiple dimensions along which a name can be considered “black” or “white.” For example, Lieberman and Mikelson [1995] study distinctive patterns of phonemes that are characteristic of Black names. In this paper we study only one dimension of the issue: the relatively frequency with which Blacks and Whites choose a given name for their children.

3. Lieberman and Mikelson [1995], using a sample of names from birth records in Illinois, find that approximately 30 percent of black baby girls born

among popular names, racial patterns are pronounced. Names such as DeShawn, Tyrone, Reginald, Shanice, Precious, Kiara, and Deja are quite popular among Blacks, but virtually unheard of for Whites.<sup>4</sup> The opposite is true for names like Connor, Cody, Jake, Molly, Emily, Abigail, and Caitlin. Each of those names appears in at least 2,000 cases (between 1989–2000), with less than 2 percent of the recipients Black.<sup>5</sup> Overall, Black choices of first names today differ substantially more from Whites than do the names chosen by native-born Hispanics and Asians.

More surprising, perhaps, is the time series pattern of Black first names. In the 1960s the differences in name choices between Blacks and Whites were relatively small, and factors that predict distinctively Black names in later years (single mothers, racially isolated neighborhoods, etc.) have much lower explanatory power in the 1960s. At that time, Blacks who lived in highly racially segregated neighborhoods adopted names that were almost indistinguishable from Blacks in more integrated neighborhoods and similar to Whites. Within a seven-year period in the early 1970s, however, a profound shift in naming conventions took place, especially among Blacks in racially isolated neighborhoods. The median Black female in a segregated area went from receiving a name that was twice as likely to be given to Blacks as Whites to a name that was more than twenty times as likely to be given to Blacks. Black male names moved in the same direction, but the shift was less pronounced. On the other hand, among a subset of Blacks encompassing about one-fourth of Blacks overall and one-half of those in predominantly White neighborhoods, name choices actually became more similar to those of Whites during this same period.

We argue that these empirical patterns are most consistent with a model in which the rise of the Black Power movement influenced Black identity. Other models we consider, such as ignorance on the part of Black parents who unwittingly stigma-

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between 1920 and 1960 have unique names. Starting in the early 1960s, there was a remarkable increase in the prevalence of unique names, resulting in a peak in 1980 in which 60 percent of Black girls were given unique names. A similar, though less pronounced, phenomenon existed among Black boys.

4. There are 463 children named DeShawn, 458 of whom are Black. The name Tyrone is given to 502 Black boys and only 17 Whites. 310 out of 318 Shanice's are Black, as are 431 out of 454 girls named Precious, and 591 out of 626 girls named Deja.

5. The most extreme case is for the name Molly, in which only 9 of 2,248 children given the name are Black.

tize their children with such names, simple price theory models, and signaling models, all contradict the data in important ways.

The paper concludes by analyzing the relationship between distinctively Black names and life outcomes. Previous studies have found that distinctively Black names are viewed negatively by others (e.g., Busse and Seraydarian [1977]). Most persuasive are audit studies in which matched resumes, one with a distinctively Black/ethnic minority name and another with a traditionally White name, are provided to potential employers [Jowell and Prescott-Clarke 1970; Hubbick and Carter 1980; Brown and Gay 1985; Bart et al. 1997; Bertrand and Mullainathan 2003]. Such studies repeatedly have found that resumes with traditional names are substantially more likely to lead to job interviews than are identical resumes with distinctively minority-sounding names. The results suggest that giving one's child a minority name may impose important economic costs on the child. In our data, however, we find no compelling evidence of a negative relationship between Black names and a wide range of life outcomes after controlling for background characteristics. Although seemingly in conflict with prior audit studies using Black names on resumes, there are three interpretations of the data that reconcile the two sets of results: (1) Black names are used as signals of race by discriminatory employers at the resume stage, but are unimportant once an interview reveals the candidate's race, or (2) Black names provide a useful signal to employers about labor market productivity after controlling for information on the resume, or (3) names themselves have a modest causal impact on job callbacks and unemployment duration that we are unable to detect.

The remainder of the paper is structured as follows. Section II describes the data used in the analysis. Section III summarizes the basic patterns observed in the data. Section IV attempts to reconcile the stylized facts with a range of potential theories. Section V analyzes the relationship between names and life outcomes and attempts to reconcile our results with previous audit studies. Section VI concludes. A data appendix describes the details of our sample construction.

## II. THE DATA

The data used in this paper are drawn from the Birth Statistical Master File maintained by the Office of Vital Records in the California Department of Health Services. These files provide

information drawn from birth certificates for all children born in California over the period 1961–2000—over sixteen million births. With the approval of the California Committee for the Protection of Human Subjects, personal identifiers including mother's first name, mother's maiden name, and child's full name have been added to the public use versions of the data. Details of the data set are provided in the appendix.

The information included varies by year and has generally been increasing over time. For our entire sample, we have information on the baby's first name, race, gender, date of birth, hospital of birth, and birth weight, as well as the mother's maiden name, parental ages, and inferred marital status. By 1989, information on parental education, residential zip code, and source of payment were added to the data. Also starting in 1989 we know the mother's first name and exact date of birth, two critical elements for linking information from a woman's own birth certificate to that of her children in those cases in which a woman is both born in California and later gives birth there. This allows us to look at the relationship between circumstances at a woman's birth (e.g., her own name, her mother's level of education, her mother's marital status, racial segregation, etc.) and the situation in which that same woman lives in when she gives birth decades later.<sup>6</sup> It also enables us to link information from all births to the same mother that took place in California, which permits the comparison of naming patterns controlling for mother-fixed effects.

We restrict our sample to non-Hispanic Blacks (referred to simply as Blacks).<sup>7</sup> In determining how Black a name is, our comparison group is non-Hispanic Whites. Summary statistics for the Black babies are provided in Table I.<sup>8</sup> We divide the sample into four sets of years: 1961–1967, 1968–1977, 1978–1988, and

6. Unfortunately, the father's first name is not included in the data, so a parallel analysis cannot be performed for males.

7. There is some ambiguity in racial and ethnic categorizations when children are born to parents of different races. We use the classification of a child's race and ethnicity on the birth certificate to assign these categories, except in the years 1999 and 2000 when the information on child's race is missing. In those years, a child is considered Black if either parent is Black. Before 1989 we do not have explicit identifiers for Hispanics. Using information from later years of data, however, we are able to effectively identify Hispanic surnames and drop from the sample any child born to a parent with a surname or maiden name that is more than 10 percent Hispanic.

8. The percentages of black babies born in a hospital or county are time varying variables measured on an annual basis using the full sample of California births. Within our four groupings of years, we provide the mean over the relevant years.

TABLE I  
SUMMARY STATISTICS FOR BLACK BIRTHS, CALIFORNIA, 1961–2000

Variables	1961–1967	1968–1977	1978–1988	1989–2000
Female	0.49 (.50)	0.49 (.50)	0.49 (.50)	0.49 (.50)
Age of mother at time of birth	24.43 (6.12)	23.25 (5.56)	24.43 (5.47)	25.70 (6.16)
Age of father at time of birth	28.47 (7.49)	26.85 (7.21)	27.72 (7.29)	28.70 (7.60)
Mother born in California	0.14 (0.35)	0.39 (0.49)	0.51 (0.50)	0.62 (0.48)
Mother unmarried at time of birth	0.31 (0.46)	0.46 (0.50)	0.56 (0.50)	0.58 (0.49)
Birth weight (in grams)	3098.87 (581.26)	3127.58 (598.12)	3181.53 (587.49)	3223.00 (591.27)
Total number of children	3.20 (2.36)	2.29 (1.69)	2.11 (1.34)	2.29 (1.50)
Months of prenatal care	5.87 (1.95)	6.77 (1.68)	7.08 (1.59)	7.28 (1.59)
Teen mother at time of birth	0.23 (0.42)	0.29 (0.45)	0.20 (0.40)	0.18 (0.38)
County hospital	0.42 (0.49)	0.16 (0.37)	0.11 (0.32)	0.09 (0.29)
White mother	— —	0.10 (0.30)	0.13 (0.33)	0.20 (0.40)
White father	— —	0.02 (0.14)	0.02 (0.15)	0.04 (0.19)
Mother's years of education	— —	— —	— —	12.58 (1.99)
Father's years of education	— —	— —	— —	12.60 (2.55)
Privately insured	— —	— —	— —	0.43 (0.49)
Per capita income in zip code (All residents in 1989, 1989 dollars)	— —	— —	— —	13166.30 (5277.24)
Per capita income in zip code (Blacks in 1989, 1989 dollars)	— —	— —	— —	11577.52 (4190.11)
Percent of Black population in zip code	— —	— —	— —	37.84 (34.55)
Percent of Black babies in birth county	12.83 (4.18)	17.65 (6.73)	23.57 (8.88)	27.25 (9.97)
Percent of Black babies in birth hospital	37.94 (28.02)	36.86 (27.63)	40.11 (27.50)	41.47 (27.65)
Black Name Index	60.87 (27.73)	66.65 (31.27)	68.13 (31.30)	70.49 (31.49)
Black Name Index—Median	60.19	70.24	73.40	82.28
Number of observations	164,648	253,735	402,120	488,959

All data are drawn from California birth certificate records, except for the information on zip codes which combines birth certificate information with data from the 1990 Census. The sample in columns 1–4 represent all Blacks born in California between 1961–1967, 1967–1977, 1978–1988, and 1989–2000, respectively. The numbers in parentheses are standard deviations. See the data appendix for further details of the construction of the samples and variables.

1989–2000. The cutoffs for these groups have been chosen with three goals in mind: (1) roughly equalizing the time periods in each group, (2) matching the cutoffs to breaks in trend in the aggregate data, and (3) grouping years in which similar sets of covariates are available. Excluded from the data set are a small percentage of observations missing information on names. When other variables are missing, we opt to leave the observation in the analysis, including an indicator variable for a missing value.

The bottom row of Table I presents our summary measure of how distinctively Black first names are. The measure we choose, which we term our “Black name index” (BNI) is

$$(1) \quad BNI_{name,t} = \frac{\Pr(name|Black,t)}{\Pr(name|Black,t) + \Pr(name|White,t)} * 100,$$

where *name* reflects a particular first name and *t* reflects the year of birth. The index ranges from 0 to 100. If all children who receive a particular name are White, then BNI takes on a value of 0. If only Black children receive a name, BNI is equal to 100. If Whites and Blacks are equally likely to choose a name, BNI equals 50. If Blacks are four times as likely to select a name, then BNI takes on a value of 80 (e.g.,  $.4/[.4 + .1] * 100 = 80$ ).<sup>9</sup> A BNI of 90 implies Blacks choose a name nine times more often. This measure is invariant to the fraction of the population that a particular minority group comprises, and to the overall popularity of a name. Names that are pronounced the same but spelled differently are treated as separate names. The bottom row of Table I shows that the mean BNI for Blacks rises from 60.9 in the early period (implying that the mean Black name is given to Blacks about 50 percent more often than it is given to Whites) to 71.0 in the last period (implying that these names are given to Blacks about two and one-half times more frequently than Whites).

Figure I(A) more clearly demonstrates the dramatic differences between Black and White name choices. The figure presents a smoothed plot of the probability distribution function of Black and White names. The horizontal axis reflects how Black an individual’s name is. The vertical axis measures the density of names chosen by race. More than 40 percent of Whites are given names that are at least four times as likely to be given to Whites

9. In computing BNI for a particular child, we exclude that child from the calculation. When a name is unique, meaning that only one child receives that name in a particular year, we assign the name a value of 0 if the person getting the name is White and 100 if the baby is Black. We explore unique names in greater detail later in the paper.



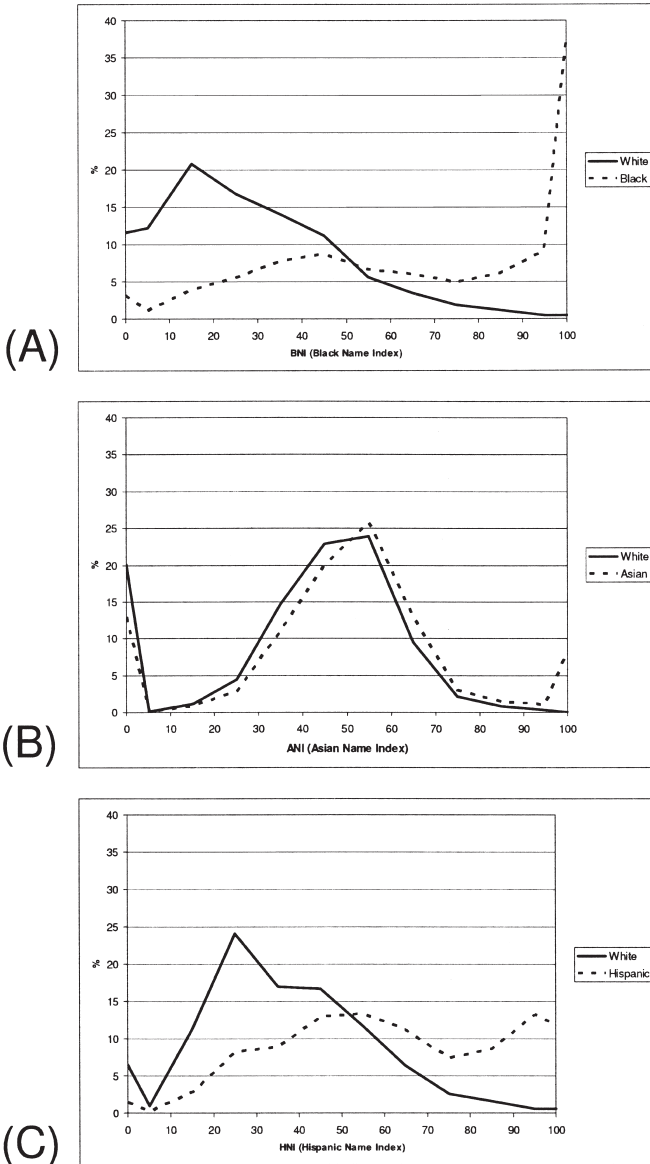


FIGURE I

Black Name Index (A), Asian Name Index (B), and Hispanic Name Index (C) Distributions, 1989–2000

(between 0–20). The fraction of Whites steadily shrinks as one moves from left to right in the figure. More than half of all Blacks have names that are at least four times as likely to be given to Blacks (between 81–100). For both races there is very little weight in the middle of the distribution (41–60), implying that there are relatively few individuals carrying names that are similarly likely for Blacks and Whites.

One might suspect that the sharp differences across races in Figure I(A) may in part be an artifact of how we construct our measure of Black names using the observed empirical distribution. In other words, we might miscategorize a name as being distinctively Black or White simply because for many names we observe only a few individuals with that name. Limiting the sample to names that appear at least twenty times in the data, however, does little to change the picture. Figure I(B), which is identical to Figure I(A) except that it compares the naming patterns of Whites with that of American-born Asians, further demonstrates that the result for Blacks is not an artifact of our measure. With the exception of a small fraction (approximately 10 percent) of the Asian population adopting names that are rare among Whites, name choices of American-born Asians strongly parallel White name choices. A comparison of native-born Hispanics and Whites in Figure I(C) shows differences in naming patterns among these two groups, although there is still substantially more overlap than for Blacks and Whites.<sup>10</sup>

An important racial difference in naming patterns is the greater usage of unique or nearly unique names in the Black community (see also Lieberman and Michelson [1995]). Figures II(A) and II(B) report, by race and gender, the number of children born in California in that same year (regardless of race) with that child's name. Remarkably, nearly 30 percent of Black girls receive a name that is unique among the hundreds of thousands of children born annually in California. Among Whites, that fraction is only 50 percent. Similarly, the fraction of unique names among Black boys is six times higher than for White boys, although only about half the rate of Black girls. The median Black child shares

10. We have also compared the names chosen by Whites with different levels of education. There are systematic differences in name choices (larger, in fact, than between Asians and Whites overall), but these differences are much smaller than either the Black-White or Hispanic-White gap.

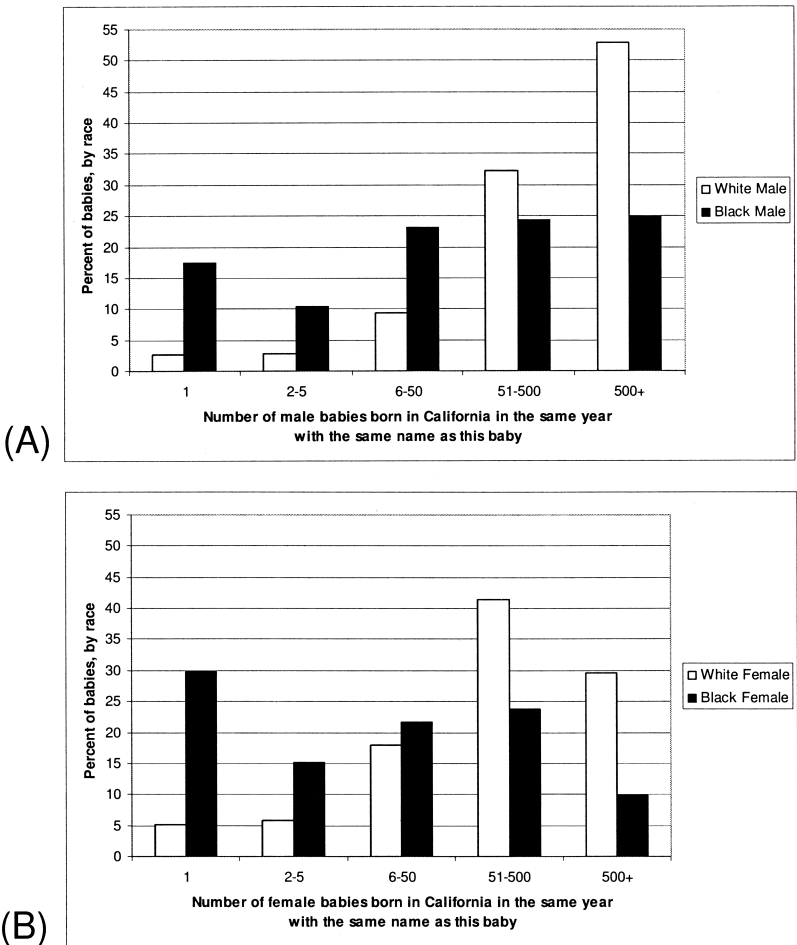


FIGURE II

Distribution of Male (A) and Female (B) Babies by How Many Share a Name, 1989–2000

(among children of all races born in California in a year)

his or her name with 23 other children; the number is almost fifteen times greater for Whites (351).<sup>11</sup>

Perhaps the most interesting findings in the data are the

11. The differences between Blacks and Whites in Figure II are not primarily due to the fact that there are many more Whites than Blacks born in California each year. If we randomly select a subset of Whites equal in size to the number of Blacks born each year, a similar pattern of results persists.

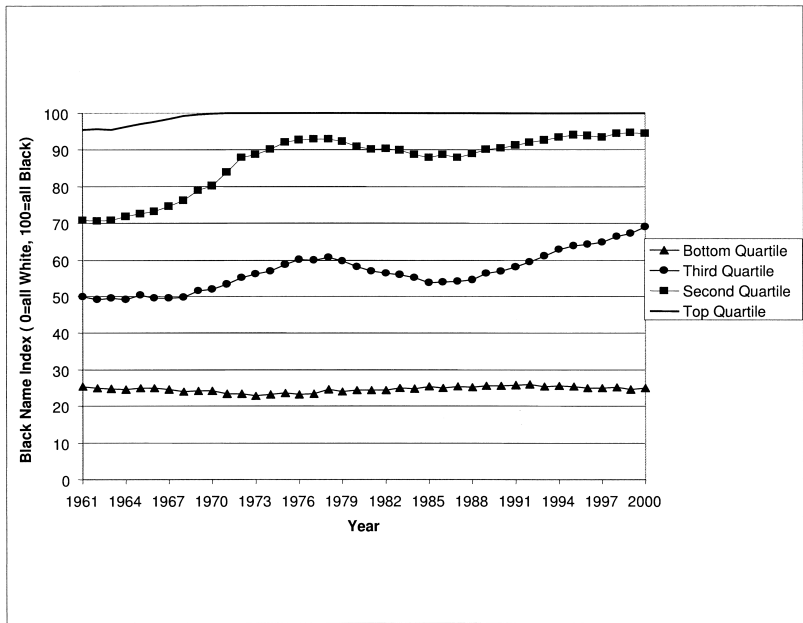


FIGURE III

Black Naming Patterns, 1961–2000 by Quartile of Black Name Index

changes in the distribution of name choices over time. For children born in each year between 1961 and 2000, we compute our Black name index and then rank order the Blacks in our sample according to how Black their name is. Figure III presents the mean BNI by year for each of the four quartiles of the distribution. The top quartile is very close to 100 throughout the entire time period (i.e., almost one-quarter of Blacks had names virtually never given to Whites throughout the sample) and thus exhibits little time-series variation. For the other three quartiles, Black naming patterns were largely stable throughout most of the 1960s. Beginning in the late 1960s, the second quartile from the top experiences a sharp rise in how Black the name choices are. Between 1968 and 1977, the mean BNI within this quartile goes from roughly 75 (meaning the name was three times as likely to be given to a Black baby as a White baby) to almost 95 (fifteen times more likely to be given to a Black baby). The third quartile also rises over that time period, but not as sharply, and also steadily increases over the period 1985–2000. The bottom

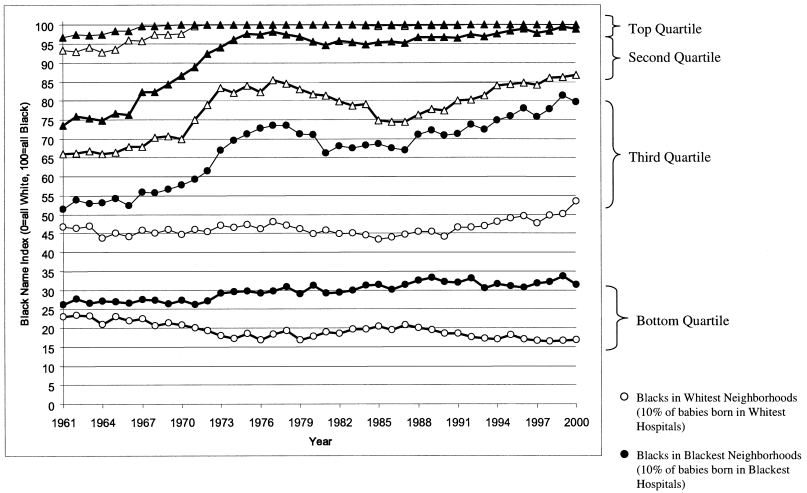


FIGURE IV

Changes in Black Naming Patterns by Racial Composition of Neighborhood and by Quartile of Black Name Index

quartile, in contrast, remains almost unchanged throughout the sample period.<sup>12</sup>

Figure IV is identical to Figure III, except that it disaggregates the data by the degree of racial segregation in the hospital in which a Black baby is born. We sort by racial segregation of the hospital and then by quartile of BNI. We show only the top and bottom deciles (i.e., the 10 percent of Blacks giving birth in hospitals with the greatest percent Black and the lowest percent Black, respectively) to highlight the extremes of the distribution. The most important observation emerging from Figure IV is the widening gap between the names given to Black babies born in predominantly Black and predominantly White hospitals over time. At the beginning of the sample, name choices differ little by the degree of racial segregation. For example, in the bottom quartile, Blacks born in racially segregated hospitals have a mean BNI of 26 versus

12. The divergence in naming patterns in the late 1960s and early 1970s is unique to Blacks. Among Hispanics and Asians, name choices relative to Whites change little between 1961 and 1978. This suggests that a shift in Black name choices drives the patterns in Figure III. In the 1990s, however, Hispanic names diverge somewhat from those of Whites, suggesting that changes in White naming patterns may be a factor in that time period.

23 for Blacks born in predominantly White hospitals. By 1978 these gaps have widened substantially, particularly in the third quartile where Blacks in Black hospitals have shifted more than twenty points relative to the beginning of the sample, but names of Blacks in White hospitals are essentially unchanged. Interestingly, among the Black babies given the least distinctively Black names (the bottom quartile), those born in White hospitals actually see a discernible *decrease* in how Black their names are, in contrast to the rest of the distribution.<sup>13</sup>

The sharp rise in the prevalence of distinctively Black names is driven in part by the increasing use of unique names among Blacks. Figures V(A) and V(B) present time-series data on the percentage of babies with unique first names by gender and racial mix of the birth hospital, where a unique name is defined as a name that no other baby born in California that year shares. The fraction of Black baby girls receiving unique names rose for the first fifteen years of the sample. Initially, rates of unique naming were similar among Blacks in predominantly Black and predominantly White neighborhoods (around 10 percent); that gap grows over time. Nonetheless, even for Blacks in White neighborhoods, almost one-quarter of baby girls received unique names. Among Whites, the rates are around 5 percent, although this (as well as the Black numbers) is likely to be an upper bound due to typographical errors being counted as unique names.<sup>14</sup> Figure V(B) documents a parallel, though less pronounced, phenomenon for Black boys. In 1961 the percentage of unique names ranged from 5–6 percent, irrespective of hospital. By 2000, one-fifth of Black boys born in predominantly Black hospitals receive unique names.

Unique names, while an important part of the explanation for the divergence in Black and White naming patterns, are not the entire story. Figure VI presents time-series evidence on the fraction of Blacks who have nonunique names that are above 80 on the BNI index, as well as the fraction of Blacks with unique names. The share of babies given distinctively Black, but non-unique names rises from 15 percent to 22 percent from the be-

13. The choice of names by Whites over time does not exhibit this pattern of bifurcation that is present in Black naming in Figures IV and V. The BNI for Whites is almost uncorrelated with the racial segregation of the hospitals in which they give birth throughout the entire time period.

14. There are two difficulties that arise in trying to purge the data of typographical errors. First, the scale of the data is enormous. Second, we have no way of knowing whether a particular name represents a typo (e.g., "Brian" mistyped as "Brain") or linguistic innovation.

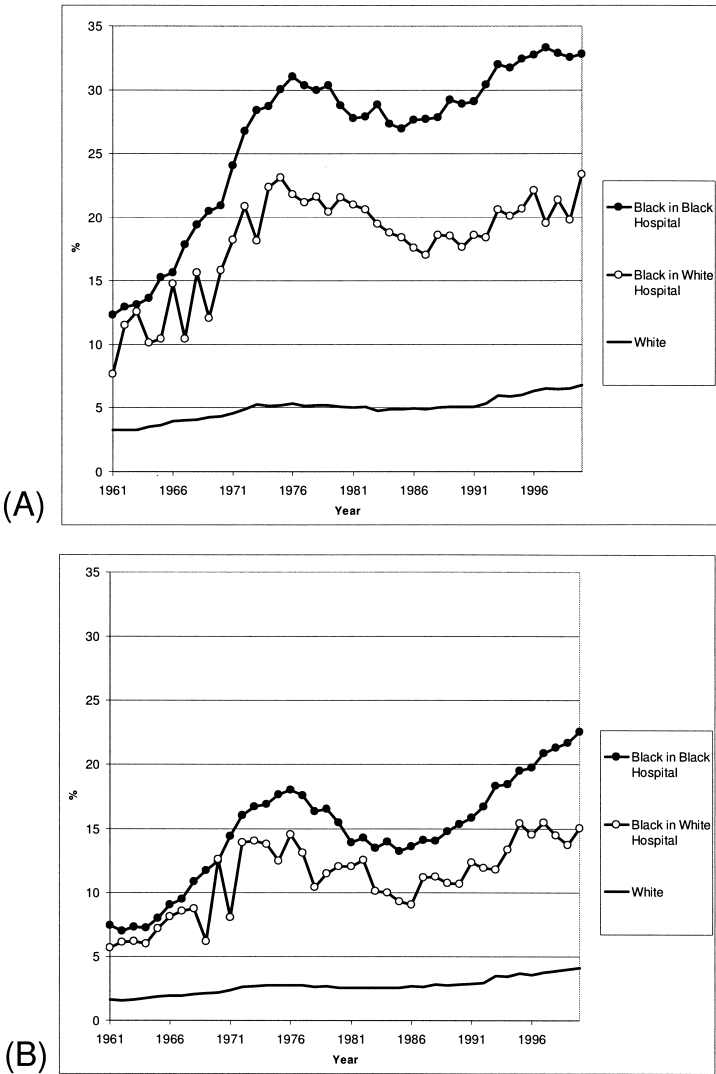


FIGURE V

Percentage of Unique Girl (A) and Boy (B) Names by Racial Mix of Hospital

gining of the sample to the peak in the mid-1970s. Unique names rise from 7 percent to 18 percent over that same period. After a dip in the 1980s, unique names gain in prominence in the 1990s, whereas nonunique distinctively Black names do not rise in popularity in the later years.

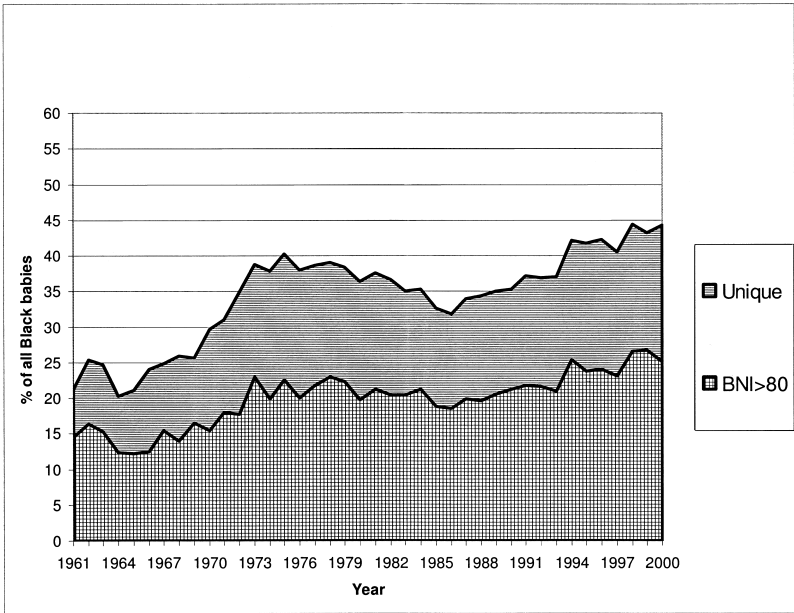


FIGURE VI

Percent of Black Babies Given Unique Names and Nonunique Distinctively Black Names, 1961–2000

Table II examines the relationship between parental characteristics, birth circumstances, and the names given to children at four different points in time. We estimate equations of the form:

$$(2) \quad BNI_{iht} = X_{iht}\beta + Z_{ht}\delta + Y_{ct}\theta + \varepsilon_{iht},$$

where  $i$ ,  $h$ , and  $t$  index individuals, hospitals, and time, respectively;  $X_{iht}$  represents an array of individual level background variables,  $Z_{ht}$  are hospital-level (potentially time varying) controls, and  $Y_{ct}$  denotes county-level (possibly time varying) controls. The standard errors are clustered by hospital-year. The first four columns of the table correspond to different sample periods. Column 1 reflects Black children born between 1961 and 1967, prior to the sharp changes in Black naming behavior. Column 2 has births occurring between the years 1968 and 1977, the years in which the transition occurred. Columns 3 and 4 capture the periods 1978–1988 and 1989–2000, respectively. We separate these two time periods because of the availability of a more complete set of covariates after 1989. Also, after 1989 we have the



necessary information to link multiple births to the same women, allowing for the inclusion of mother-fixed effects in column 6. All of the controls included in the regression are taken from a child's birth certificate and thus are determined at the time of birth. For the entire period, covariates available include parents' marital status, age, and race, mother's place of birth, her total number of children, months of prenatal care, the baby's birth weight, the percent Black at the birth hospital, the percent Black in the county, and whether the child is born in a county hospital. In the later years of the sample, the set of included controls is much richer: income and percent Black at the zip code level, highest grade completed by mother and father, and expected source of payment for the delivery.

Columns 1–4 hold the set of covariates constant and compare the relative importance of these variables in predicting BNI over the four periods. In almost all cases, variables associated with low socioeconomic status are also associated with Blacker names. Moreover, the link between low socioeconomic status and Black names becomes much stronger over time. The coefficients on mother's age, birth weight, and single mother are less than one-half as large in the first period (column 1) as they are in the last period (column 4). Father's age has no impact in the early period, but does have a negative coefficient in the later periods. Note also that the  $R^2$  in the regressions increases steadily over time, meaning that these characteristics explain a growing fraction of the variation in names. A final implication of the table is that names are becoming more distinctively Black over the course of the sample. For instance, a woman with the mean sample characteristics in the 1960s would be predicted to choose a name with a BNI of 60.9 in the 1961–1967 period. A woman with those same characteristics giving birth in the 1990s will on average choose a name with a BNI of 71.4. Likewise, for a woman with the average traits of mothers giving birth in the 1990s, the predicted BNI of the name is 70.5 for a baby born in the 1990s compared with 61.8 if that baby had been born in the 1960s.<sup>15</sup>

The specification estimated in columns 5 and 6 are similar to those in the previous columns of the table, except the richer set of

15. The results in Table II are similar if the sample is restricted to names given to twenty or more babies in a given year. Patterns are also similar if we use as the dependent variable an indicator for whether or not a child has a unique name. Although not shown in tabular form, we also find that many of the same factors that predict the choice of names among Blacks also predict the choice of names among Whites, although for Whites the magnitude of the impacts is substantially smaller in magnitude.

TABLE II  
DETERMINANTS OF NAME CHOICES AMONG BLACKS

Variable	1961-1967	1968-1977	1978-1988	1989-2000	1989-2000 Full covs	1989-2000 Mother FEs
Female	1.29 (0.14)	3.31 (0.14)	4.84 (0.11)	3.06 (0.10)	3.17 (0.10)	4.04 (0.14)
Percent of Black babies in birth hospital	0.045 (0.004)	0.060 (0.005)	0.081 (0.003)	0.091 (0.004)	0.027 (0.004)	0.018 (0.005)
Percent of Black babies in county	0.064 (0.020)	0.142 (0.016)	0.035 (0.010)	0.012 (0.010)	0.008 (0.010)	-0.004 (0.016)
Mother born in California	-2.16 (0.35)	0.46 (0.16)	-0.06 (0.11)	0.46 (0.11)	0.11 (0.10)	— —
Mother's age at time of birth	-0.35 (0.02)	-0.54 (0.02)	-0.63 (0.01)	-0.74 (0.01)	-0.50 (0.01)	0.15 (0.05)
Father's age at time of birth	0.00 (0.02)	-0.17 (0.01)	-0.13 (0.01)	-0.19 (0.01)	-0.16 (0.01)	-0.06 (0.02)
Months of prenatal care	-0.07 (0.04)	0.27 (0.04)	-0.04 (0.03)	-0.17 (0.03)	-0.04 (0.03)	0.00 (0.05)
County hospital	1.16 (0.20)	-0.05 (0.29)	0.68 (0.19)	0.08 (0.30)	-0.90 (0.29)	-0.60 (0.35)
Birth weight in kilograms	-0.42 (0.12)	-1.12 (0.11)	-1.91 (0.09)	-1.78 (0.08)	-0.59 (0.08)	0.02 (0.16)
Total number of children	0.22 (0.04)	0.73 (0.05)	1.32 (0.05)	1.84 (0.04)	0.85 (0.04)	-0.06 (0.11)
Single mother	2.10 (0.28)	4.21 (0.15)	5.21 (0.13)	4.73 (0.12)	2.95 (0.11)	0.20 (0.21)
Percentage of Black babies in zip code	—	—	—	—	-0.0029 (0.0024)	-0.0103 (0.0045)

TABLE II  
(CONTINUED)

Variable	1961-1967	1968-1977	1978-1988	1989-2000	1989-2000 Full covs	1989-2000 Mother FEs
Per capita income (all residents, 1989) ( $\times 1000$ )	—	—	—	—	-0.0622 (0.0163)	-0.0116 (0.0340)
Per capita income (Black residents, 1989) ( $\times 1000$ )	—	—	—	—	-0.2294 (0.0187)	-0.0830 (0.0389)
Mother's years of education	—	—	—	—	-0.850 (0.030)	0.060 (0.073)
Father's years of education	—	—	—	—	-0.295 (0.023)	-0.029 (0.043)
Privately insured	—	—	—	—	-2.98 (0.15)	-0.55 (0.22)
White mother	—	—	—	—	-12.22 (0.13)	—
White father	—	—	—	—	-17.94 (0.26)	-6.28 (0.81)
Constant	66.61 (0.78)	76.11 (0.59)	81.61 (0.51)	88.18 (0.50)	104.61 (0.62)	—
$R^2$	0.0117	0.0354	0.0464	0.0592	0.0951	0.7764
Birth sample used	1961-1967	1968-1977	1978-1988	1989-2000	1989-2000	1989-2000
Include mother-fixed effects?	No	No	No	No	No	Yes
Number of observations	164648	253703	402120	488959	488959	488485

The dependent variable in all columns is the Black Name Index of the name given to the child at birth. The Black Name Index ranges from 0 for names that are only given to Whites to 100 for names that are only given to Blacks. All variables included on the right-hand side of the regression are known at the time of a baby's birth. Included in the regression, but not reported in the table are indicator variables for missing values. Standard errors are clustered to take into account correlation across people born in the same hospital in the same year.

covariates is used. Blacker names are associated with lower-income zip codes, lower levels of parental education, not having private insurance, and having a mother who herself has a Blacker name.

The last column of Table II adds mother-fixed effects to the specification. Thus, the identification comes from changes in a mother's situation across different births. To the extent that mothers anticipate the changes that occur in their circumstances between births and factor these expectations into the name given to their first child, the fixed-effects coefficients will be biased toward zero. The estimates in column 6 are substantially smaller in magnitude than in the earlier columns, with the exception of variables reflecting how Black the neighborhood is and the coefficient on female. The coefficient on mother's age flips sign, implying that women who have babies early in life tend to choose Black names relative to other women, but that a given woman picks slightly Blacker names for her children as she grows older.<sup>16</sup> In addition, the inclusion of mother-fixed effects raises the  $R^2$  from .095 to .776—there is a great degree of continuity in the names mothers choose for their children, implying that person-specific tastes are quite important determinants of name choice. The results with mother-fixed effects suggest either that temporary changes in circumstances have a relatively small impact on name choices, or that our measures of current circumstances are noisy.

### III. UNDERSTANDING THE PATTERNS IN THE DATA THROUGH THE LENS OF ECONOMIC THEORY

A number of stylized facts emerge from the analysis of the preceding sections. Blacks, much more than other minorities, choose distinctive names for their children. The distinctiveness of Black names has risen greatly over time, most notably in the late 1960s and early 1970s. These shifts in naming patterns have not, however, been uniform. In particular, among the quarter of the Black population choosing the names most common among Whites, the opposite pattern is evident. Further, Blacks living in highly segregated Black communities today are much more likely to have distinctively Black names than those in integrated communities, whereas this was not the case in the early 1960s.

16. This result holds up when we include a full set of year dummies, implying that the increases in BNI are age effects of the mothers and not time effects.

Finally, until the late 1970s the choice of Black names was only weakly associated with socioeconomic status; in the 1980s and 1990s distinctively Black names have come to be increasingly associated with mothers who are young, poor, unmarried, and have low education.

In this section we consider the extent to which existing theories can successfully account for this disparate set of facts.

### *III.A. The Ignorance Model*

One explanation for the prevalence of distinctively Black names is ignorance on the part of Black parents, who fail to appreciate the costs they are imposing on their children through such choices. Audit study results, for instance, suggest that Black names may be punished in the labor market.

This theory fails to adequately explain the sharp increase in distinctively Black names in the late 1960s and early 1970s. There is little reason to believe that Black parents became systematically less informed about the consequences of distinctively Black names at that time. This theory is also at odds with the fact that those adopting Black names in the early 1970s were, for the most part, representative of the Black community, not a small subset of parents likely to be particularly misinformed.<sup>17</sup>

### *III.B. Price Theory Model*

Consider the following skeletal outline of a price theory model of names, which we derive formally in an earlier version of this paper [Fryer and Levitt 2002]. Parents give names to their children at birth to maximize the child's expected utility. Individuals are born into neighborhoods that differ in racial composition. People live and work in the same neighborhoods. Moving between neighborhoods is costly. The returns to ability are assumed to be higher in predominantly White neighborhoods. White names pro-

17. On the other hand, one cannot a priori rule out that this explanation has potential relevance for explaining at least some of the patterns of the last two decades. If it became apparent in the 1980s that there were costs to having a Black name, one might expect that parents who were likely to be best informed about these costs (e.g., older working parents living in less racially isolated neighborhoods) would choose such names less frequently, whereas learning on this dimension might be more gradual for teenage mothers in the inner city. In absolute terms, this explanation fails, because the adoption of Black names rose throughout the 1990s. At least in relative terms, however, there was a shift in the 1980s and 1990s toward an increasing concentration of distinctively Black names among parents least likely to be well informed about the potential stigma of such names in broader society. In light of results presented later in the paper that call into question the costs of adopting distinctively Black names, however, we are quite skeptical of this theory as an explanation for the observed phenomena.

vide benefits in interactions with Whites; Black names are beneficial when interacting with Blacks. We also assume that the value of a White name is increasing in ability, motivated by the audit study literature which suggests that the primary cost of a distinctively Black name is via the labor market. A child's ability is not known with certainty at birth, although the distribution from which the child's ability will be drawn is known.

In this model, parents will opt for Whiter names when (i) their children are more likely to be high ability, (ii) the cost of moving to predominantly White neighborhoods falls, (iii) returns to ability rise in the labor market, (iv) the relative cost of having a White name when interacting with Blacks falls, and (v) the benefit of having a White name when interacting with Whites rises.

The predictions of this model face mixed success in terms of the patterns observed in the data. Consistent with the theory is the fact that those in racially isolated communities are especially likely to adopt distinctively Black names in recent decades, and that such names are most common among groups likely to face the greatest barriers to participating in traditional labor markets. This theory, however, does quite poorly in explaining the sharp rise in distinctively Black names in the late 1960s and early 1970s—a period immediately following the passage of national Fair Housing laws in 1968, falling social barriers to integration, and increased economic opportunity for Blacks. Empirically, urban racial segregation which had been rising began to fall around this time and has steadily declined for three decades [Cutler, Glaeser, and Vigdor 1999].<sup>18</sup> In light of these apparent reductions in the costs of switching between neighborhoods, one would have expected a shift away from distinctively Black names at precisely the point where such names were becoming most prevalent.

Additionally, it is not clear that the price theory model provides an adequate explanation as to why Black names are much more distinctive than Asian or Hispanic names, when presumably many of the same trade-offs might also exist among those minority groups.

18. Although the level of residential racial segregation has declined at a relatively slow rate, to the extent that these persistent declines were anticipated and parents are concerned with the impact a name will have on their children as adults in the labor market, one would nonetheless expect to see an immediate, abrupt shift in naming patterns.

### III.C. A Signaling Model

A third model to consider is a simple signaling model in which distinctively Black names serve as a signaling device, but are otherwise not productive, along the lines of prior research by Iannaccone [1992], Berman [2000], and Fryer [2003].<sup>19</sup> Imagine a predominantly Black neighborhood populated by Black individuals of one or two types: those who have a strong affinity for the Black community (the “black” type) and those who do not (the “white” type). An individual’s type is fixed at birth and cannot be changed. Each individual knows her own type, but type is not observable to others. An individual’s utility is determined by his type and the neighborhood’s perception about his type. Regardless of one’s actual type, social interactions in the Black community yield higher utility if others believe that one has an affinity for the Black community.<sup>20</sup> Thus, all else being equal, both types prefer to be perceived as being a “black” type.

One way in which an individual signals his or her type is by the names that they choose for their children. In the model, each parent has one child and bestows a name on that child. The (suitably anthropomorphized) community observes the name that each parent gives his or her child, and based on that signal, draws unbiased inferences about the parent’s type. As in the price theory model, we assume that White names provide labor market benefits. The total cost and marginal cost of giving a child a Blacker name is lower for a parent with the “black” type.

Either separating or pooling equilibria may arise in such models. In any separating equilibrium, parents whose type is “black” are willing to give otherwise costly names to their children simply because it allows them to distinguish themselves from parents who identify as “white,” and derive more utility from social interactions. As a result, peers come to regard Black names as a signal of community loyalty. In any pooling equilibrium, the payoff to social interactions is determined by the underlying population distribution of types. Pooling is likely to occur, in our model, when the marginal rates of substitution for both types of parents are similar.

The predictions of the signaling model fit some of the basic

19. For a formal treatment of this model, see the earlier version of this paper [Fryer and Levitt 2002].

20. For example, those with an affinity to the Black community may be more likely to contribute to local public goods than those with “white” identities, inducing better treatment from their neighbors. For instance, Anderson [1999] talks about the importance of having others “watch your back.”

patterns observed in the data. Black name choices in the 1960s, for instance, look roughly consistent with a pooling equilibrium in which one's name is not a strong signal. Any mechanism that amplified the differences in the cost of signaling between the two types could cause a bifurcation in the distribution of Black names such as occurred in the early 1970s, with "black" types moving to distinctively Black names and "white" types shifting toward Whiter names (if they previously had been in a pooling equilibrium) or continuing to choose traditional white names (if they formerly were in a separating equilibrium). Such a change could have come as a result of the increased opportunities for integration due to the civil rights movement [Fryer 2003]. Those Blacks with the most to gain from integration would opt for Whiter names. Somewhat counterintuitively, for those Blacks who continue to signal a "black" type, to sustain the new equilibrium requires an even costlier (i.e., Blacker) name choice since the outside option is now more attractive.

The signaling model appears to fall short in explaining four dimensions of the data. First, in the 1980s and 1990s, individuals who are most likely to adopt distinctively Black names (young, unmarried women in predominantly Black neighborhoods) are those with the least need to signal affinity with the Black community or their commitment to remaining in the neighborhood. Second, the signaling model has a hard time explaining why Black names became more prevalent among many different types of Blacks, including those who live in mostly White communities. Third, in order for the Black names signal to be credible, it must impose costs on those who carry the names. In Section IV of this paper, however, we are unable to detect evidence that Black names are costly. Finally, the signaling model provides little rationale as to why Blacks might engage much more extensively in signaling than do either Asians or Hispanics.

### *III.D. An Identity Model*

The primary shortcoming of the signaling model in explaining the data is that, for a large segment of the Black community, distinctively Black names appear to be viewed as a benefit rather than a cost. In the signaling model, an investment must be costly to provide a credible signal. Using a similar framework, but allowing Black names to be a benefit for those with the "black" type and a cost for those with the "white" type converts the signaling model into a simple identity model.

In particular, we have in mind the framework of Akerlof and



Kranton [2000]. In their language, identities are accompanied by certain “prescriptions” that define appropriate behaviors for a person of that type. When an individual takes actions in line with these prescriptions (e.g., a “black” type choosing a distinctively Black name, or a “white” type choosing a White name), there is a utility benefit.

To justify the patterns in the time series circa 1970 through this model, there must be a shock to the identity prescriptions (i.e., what it means to be Black) around this time period. The rise of Black Power appears to be precisely that sort of shock. The underlying philosophy of the Black Power movement was to encourage Blacks to accentuate and affirm Black culture and fight the claims of Black inferiority [Van Deburg 1992]. Within the Black community, there were widespread changes in hair styles and the rising popularity of afro-centric clothing between 1968–1975 [Van Deburg 1992; Woodward 1974]. The adoption of distinctively Black names would be completely consistent with these other cultural phenomena. The identity model may also help to explain why naming patterns among Blacks are quite distinctive from Whites, but Asians name their children in much the same manner as Whites. For instance, if Asian “prescriptions” stress financial success and assimilation, Asian names would be expected to mirror those of Whites.

Another fact consistent with a Black Power explanation is that the concentration of Blacks by county is a much stronger predictor of Black names in the 1968–1977 period than the rest of the sample. In column 2 of Table II, the coefficient on that variable is .142 (standard error of .016) for 1968–1977, but never larger than .064 in any other period. The county-level trends also exhibit a basic consistency with a Black Power story. Alameda (in which Oakland is located), Los Angeles, and San Francisco counties were the centers of the Black Power movement. Black names increased earlier and to a greater extent in these three counties than the rest of the state.

The identity model may also apply to the increases in BNI in the 1990s, as there is suggestive evidence that there was a secondary Black cultural movement during this time. Indeed, this is precisely the period in which Blacks (headed by Jesse Jackson and Detroit Mayor Coleman Young) demanded to be referred to as African-American. This change was meant to tie Blacks more closely to their African cultural heritage. Enrollment in historically Black colleges and universities, which had been declining for a decade, rose over 20 percent between 1986 and 1994 [Hoffman

1996]. There was an emergence in the entertainment industry of politically motivated music (*Public Enemy*, for example) and film (i.e., *Do the Right Thing*, Spike Lee), which highlighted the abhorrence in black communities of the status quo. Recall, a similar spark ignited the Black Power movement, as some Blacks were frustrated with the niceties of the civil rights generation. In a related paper, McAdams, Fryer, and Levitt [2003] provide a more thorough investigation of the black power movement between 1968–1975 and the Black cultural movement in the 1990s; as explanations of the time-series changes in BNI.<sup>21</sup>

In summary, although the evidence in favor of the identity model is far from overwhelming, it is the only theory examined which does not yield predictions that are directly at odds with the observed patterns in the data.

#### IV. THE RELATIONSHIP BETWEEN NAMES AND ADULT OUTCOMES

In light of audit studies documenting the use of names as a screening device by employers, one might expect that having a distinctively Black name should be associated with worse economic outcomes, holding all else equal. In this section we link information from a woman's own birth certificate to her adult circumstances as reflected in the information on the birth certificates of her children at the time she gives birth.

In order to make this linkage, a woman must be born in California and later give birth in California. We focus our analysis on women born in 1973 and 1974—the earliest years for which we have the necessary information to make reliable links. Of the women still residing in California who have given birth, we match at a high rate (over 90 percent).<sup>22</sup> The subset of women that we successfully link is not representative of all women born in 1973–1974. In particular, women who defer childbearing to their late twenties are excluded from our sample. The women we are able to link are themselves born to slightly younger, unmarried mothers.

21. Lieberman and Michelson [1995] make a similar point as they relate the rise in the prevalence of unique names to the rise of the Black Panther Party.

22. According to the 1990 Census, roughly 20 percent of Black women born in California live outside the state during their childbearing years. Also based on 1990 Census data, 42 percent of Black women born in California have no children by age 27. If leaving California is independent of the decision to have a child by age 27, then 46.4 percent of Black women born in California should give birth in California in our sample.  $[1-.2] * .58$ . For details of how this linkage is performed, see the data appendix. A smaller subset of White women are successfully linked because more Whites move out of state and more White women defer childbearing until later in life.

The differences between the whole sample and the linked subset are consistent with higher fertility rates and lower rates of cross-state mobility among these groups. Importantly, however, after controlling for socioeconomic characteristics, there is no systematic difference between the first names of the women who are or are not successfully linked. If we regress an indicator variable for a successful link (equal to one if a link occurs and zero otherwise) on the woman's BNI and background characteristics at the time of the woman's birth, the coefficient on the woman's BNI is both substantively and statistically insignificant. Nonetheless, it is important to emphasize that our sample for testing the relationship between names and life outcomes is limited to females born in California who later give birth there before the age of 27. Further, our outcome measures are coarse. We do not observe individual wages or family economic circumstances, but rather, the median income of their zip code, years of education, etc, which are highly correlated with the relevant outcomes.

Our approach to testing for a relationship between names and life outcomes involves predicting adult life outcomes as a function of everything known about a woman and her parents at the time of her own birth, including her name:

$$(3) \quad y_i^{adult} = \beta BNI_i + \gamma X_i^{birth} \Gamma + \lambda_h^{birth} + \varepsilon_i,$$

where  $i$  indexes women,  $h$  represents hospitals, and the superscripts *adult* and *birth* correspond to the time at which the variable is measured. In some specifications we restrict the sample only to Blacks; in other cases we include both Blacks and Whites including an indicator for race and interactions between BNI and race. We analyze a wide selection of outcomes as dependent variables. All of the covariates included in the earlier analysis of the cohorts born in the 1970s are also in this specification. We limit the sample to the last birth that we observe for a particular woman in order to most closely approximate the long-run outcomes of the women, although the results are not sensitive to this restriction.

The clear weakness of this empirical approach is that if unobserved characteristics of the woman are correlated both with life outcomes and her name, our estimates will be biased. Given that Black names are associated with lower socioeconomic status on observable measures, one would expect that Black names are also likely to be positively correlated with omitted variables that

predict worse life outcomes, leading our estimates to exaggerate the true relationship between a woman's name and her life outcomes, although one can also construct scenarios in which the opposite bias could arise.<sup>23</sup>

The results of estimating equation (3) restricting the sample to Black women are presented for a range of outcome variable in the top two rows of Table III. The top row does not include any controls; the second row includes the full set of controls. In both cases, only the coefficient on the woman's own Black Name Index is presented in the table. In the absence of controls for background characteristics, Blacker names are uniformly associated with worse adult outcomes. Given the correlation between Black names, growing up in segregated neighborhoods, and more difficult home environments, this relationship is expected. What is surprising, especially in light of the biases discussed above, is how limited the impact of a woman's name is on her life outcomes once we control for other factors that are present at the time of her birth. When we include covariates in the basic specification (row 2), we find statistically significant coefficients for only four outcomes: percent Black in the hospital the mother gives birth, whether the woman is unmarried at the time of the birth, per capita income among Blacks living in her zip code, and how Black a name the woman chooses for her own child. Even in these cases of statistical significance, the magnitude of the coefficients associated with the BNI is substantively small. Changing the BNI from 50 to 100 raises the percent Black in the hospital where the mother gives birth by less than one percentage point, the probability of an unmarried birth two-tenths of one percentage point, and per capita income for Blacks in the zip code by \$100. The largest impact that a woman's name appears to have is on how she names her children. An increase of 50 in the BNI raises the BNI of her children by about 3—a little more than half the impact that being a single mother has on naming, and the same impact as having the child in a hospital in which an extra 30 percent of the births are to Blacks. None of the other variables considered yield statistically significant coefficients: years of education of the woman or the father of her child, mother's age at first birth,

23. One logical solution to this problem would be to use the name of the woman's mother as an instrument. The mother's name is a strong predictor of her daughter's name, but one might plausibly argue that controlling for a wide range of covariates at the time of the daughter's birth, the mother's name will have no impact on her daughter's adult outcomes. Unfortunately, the mother's first name is not included in our data set until 1982, so this instrumental variables strategy will not be feasible until more years of time have passed.

private insurance coverage, her baby's birth weight, and number of total children born to date.<sup>24</sup> Particularly in light of the biases likely to be pushing the results toward finding a spurious negative relationship between names and outcomes, we conclude that there is little evidence that how Black one's name is negatively impacts life outcomes.

In the remaining rows of Table III, we expand the sample to include both Whites and Blacks. In addition to the same set of control variables included in the second row of the table, we add an indicator variable for a woman's race as well as interactions between race and BNI. The race dummy captures systematic differences in outcomes for Blacks and Whites with otherwise similar observable characteristics at birth. The interactions between BNI and race allow for a differential impact of name choice by race. Empirically, we find large coefficients on the race variable for most outcomes. Controlling for the set of characteristics observed at the time of a woman's birth, Black women live in neighborhoods with 28.8 percentage points more Blacks, give birth about one year earlier, have babies that weigh almost 200 grams less, are 26 percentage points more likely to be unmarried when they give birth, nine percentage points less likely to have private insurance, and live in neighborhoods with per capita income over \$2,000 lower than Whites. The only variables for which the race dummies are not substantively large is for years of education. These systematic racial differences may reflect either discrimination or unmeasured differences between Blacks and Whites; we have no power to distinguish between these competing hypotheses. Note, however, that the weak relationship between names and outcomes persists. Interestingly, there is generally a stronger relationship between BNI and life outcomes for Whites than Blacks, although in both cases the magnitude of the effects is small.<sup>25</sup>

24. The findings are robust to relaxing the restriction that BNI affect the outcome measures linearly. If we replace our measure of BNI with a set of mutually exclusive indicator variables corresponding to having a unique name, a BNI greater than 80 but not unique, a BNI between 50 and 80, and the omitted category which is a BNI less than 50, the basic conclusions are unchanged.

25. We have also explored whether other aspects of naming have a causal impact on life outcomes. For example, one might expect that having the "wrong" kind of name (i.e., a White name in a Black neighborhood and vice versa) will, at least in terms of utility, adversely affect life outcomes. We attempted to identify people with the "wrong" names in two different ways. In the first approach, we calculate the deviation between the BNI that a person actually received and the BNI that we predict they should have received based on their birth circumstances. The absolute magnitude of the deviation represents how "wrong" their name is from an *ex ante* perspective. An alternative way of characterizing someone as

TABLE III  
THE RELATIONSHIP BETWEEN NAMES AND LIFE OUTCOMES

	Percent Black in residential zip code as an adult	Percent Black in hospital where mother gives birth as an adult	Percent minority in hospital where mother gives birth as an adult	Years of education (the woman herself)	Years of education (father of woman's child)	Woman's age at first birth
Mean	43.3	47.4	57.0	12.4	12.2	19.6
Standard dev.	(35.0)	(27.2)	(23.3)	(1.6)	(2.2)	(3.0)
Other controls?						
<i>Sample restricted to Blacks</i>						
<i>Coefficient on the variable:</i>						
Black Name Index	0.0602 (0.0099)	0.0543 (0.0080)	0.0458 (0.0101)	-0.0006 (0.0005)	-0.0006 (0.0007)	-0.0020 (0.0008)
Black Name Index	0.0155 (0.0096)	0.0172 (0.0072)	0.0201 (0.0092)	0.0008 (0.0005)	0.0000 (0.0007)	0.0009 (0.0007)
<i>Sample includes Blacks and Whites</i>						
<i>Coefficient on the variable:</i>						
Black Name Index * Black	0.0007 (0.0096)	0.0076 (0.0073)	0.0073 (0.0062)	0.0009 (0.0005)	0.0004 (0.0007)	0.0003 (0.0008)
Black Name Index * White	0.0018 (0.0028)	0.0151 (0.0041)	0.0144 (0.0043)	-0.0022 (0.00044)	-0.0013 (0.00066)	-0.0026 (0.00063)
Black	28.8 (1.2)	20.7 (1.0)	19.0 (0.9)	0.097 (0.046)	-0.072 (0.071)	-0.911 (0.078)

TABLE III  
(CONTINUED)

	Baby's birth weight in grams	Unmarried when baby born	Privately insured at time of birth	Total children born so far	Per capita zip code income (all residents)	Per capita zip code income (Black residents)	Black Name Index of name chosen for her child
<i>Sample restricted to Blacks</i>							
<i>Coefficient on the variable:</i>							
Black Name Index	3219.4 (560.4)	0.71 (0.45)	0.37 (0.48)	2.01 (1.16)	12587 (4697)	11170 (3552)	77.8 (29.23)
Black Name Index	-0.27 (0.16)	0.0007 (0.0001)	-0.0004 (0.0001)	0.0009 (0.0003)	-7.1 (1.4)	-5.0 (1.1)	0.081 (0.009)
Black Name Index	-0.04 (0.17)	0.0004 (0.0001)	-0.0001 (0.0001)	0.0005 (0.0003)	-2.2 (1.1)	-1.9 (1.4)	0.062 (0.009)
<i>Sample includes Blacks and Whites.</i>							
<i>Coefficient on the variable:</i>							
Black Name Index * Black	0.15 (0.17)	0.0002 (0.0001)	0.0000 (0.0001)	0.0005 (0.0003)	-0.2 (1.4)	-1.1 (1.1)	0.058 (0.009)
Black Name Index * White	0.15 (0.15)	0.0002 (0.0001)	-0.0004 (0.0001)	0.0008 (0.0002)	-5.0 (1.4)	-1.8 (1.8)	0.034 (0.007)
Black	-194.5 (15.1)	0.26 (0.01)	-0.09 (0.02)	0.21 (0.03)	-2364.3 (150.7)	-687.9 (132.6)	41.37 (0.82)

The dependent variable is listed at the top of each column. The values reported in the table are the coefficient on the measure of how Black an individual's name is. In the top two rows, the key regressor is the Black Name Index. In the bottom six rows, three indicator variables are included denoting whether a name is unique, greater than 80 on the Black Name Index, or between 50 and 80. The omitted category is less than 50 in those specifications. Results are presented with no controls and including percent of Black babies in birth hospital, percent of Black babies in birth county, whether mother was born in California, mother's age at time of birth, father's age at time of birth, months of prenatal care, whether born in a county hospital, birth weight, total number of children, and dummy for single mother. The sample in the top panel of the paper is the set of Black women for whom we successfully match their own birth certificate information to that of their children when the women themselves give birth. The sample in the bottom panel includes both Blacks and Whites whom we successfully match from own birth certificate to the child's. Standard errors are in parentheses. All of the covariates in the regressions (percent Black babies in woman's birth hospital, percent of Black babies in county of woman's birth, whether woman's mother is born in California, mother's and father's age at time of woman's birth, mother's months of prenatal care, whether woman's mother was married at the time of woman's birth, whether woman was born in a county hospital, woman's birth weight, and total number of prior births to the woman's mother) are known as of 1973-1974 when the women are born. All of the outcome variables correspond to the circumstances when they give birth as adults in the period 1989-2000.

There are three possible interpretations of the data that reconcile our findings with that of the audit study literature. One possibility is that the only function names serve is as a noisy initial indicator of race. In this view of the world, those with Black names may receive fewer job interviews, but no fewer job offers. Discriminatory employers will use distinctively Black names as noisy signals of race, but names become irrelevant once the candidate shows up for an interview and the employer directly observes race.<sup>26</sup> Indeed, in such a world, there is a benefit to Blacks of signaling their race through name choice in order to avoid undertaking costly interviews unlikely to yield jobs and to signal race to employers giving preferential treatment to Blacks. A second interpretation of the data that is consistent with our findings and those of the audit studies is that Black names, because of self-selection among Black parents, provide useful signals of human capital to employers, even controlling for race itself and other information available on resumes.<sup>27</sup> A final possibility is that names themselves have a modest causal impact on job callbacks and unemployment duration that we are unable to detect using the relatively coarse outcome measures available to us. Note that only in the third of these three interpretations does a person's name have any causal impact on life outcomes.

We cannot directly test between these competing hypotheses for two reasons. First, our data set lacks clean measures of productivity. We do, however, observe worker characteristics that

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having the "wrong" name is to look at cases in which a woman's name is mismatched ex post with the actual neighborhood in which she lives as an adult. In neither case do we find a systematic link between having the "wrong" name and the types of outcomes we are measuring.

26. Even if names have an impact that extends beyond the resume stage, in an efficient market with sufficiently many nondiscriminatory employers, the presence of discrimination need not result in worse outcomes for Blacks [Becker 1957]. Note also that, at least in the past, a relatively small fraction of the jobs were actually obtained through a formal resume-based process. Granovetter [1974] reports that approximately 10 percent of respondents in a survey report obtaining their job through job advertisements.

27. From a legal perspective, the use of names as a basis for hiring decisions is likely to be a violation of current law, regardless of whether there are underlying productivity differences. In the 1971 decision *Griggs v. Duke Power*, the Supreme Court ruled unanimously that policies that are neutral on their face, but have a disparate impact on Blacks are not allowed. This doctrine was codified in the Civil Rights Act of 1991 after the 1989 case *Antonio v. Wards Cove Packing* modified the *Griggs* ruling by stating that policies with disparate impacts were allowable as long as they served a legitimate business interest. Indeed, even the use of names to choose a subset of Blacks from an entirely Black hiring pool would probably be viewed as illegal under *Connecticut v. Teal*, in which it was found that even policies that have no disparate impact on a protected group, but harm some individuals within that group, violate the law.



might be correlated with labor productivity (see, e.g., Heckman and Carneiro [2003]), but are typically not included on a resume (and are for the most part illegal for employers to inquire about): whether a woman is a single mother, was born to a teenage mother, was raised in a single-parent household, or the degree of racial segregation into which she was born. The second difficulty in testing this hypothesis is that we do not have in our data all of the information on a resume (e.g., particular schools attended, complete work history, misspellings).

Our empirical strategy, in light of these shortcomings, is to estimate a number of specifications in the general spirit of equation (2), varying the set of covariates included in the regression. A critical difference between the earlier estimates and those presented below are that we now include information about the adult circumstances of a woman as covariates, since such information is on the resume. The results are presented in Table IV. Rows of the table correspond to different factors that might be correlated with labor productivity due to their influence on human capital: segregation in one's birth hospital, mother's marital status, whether one's mother was a teenager, the woman's own birth weight, the woman's own marital status, the education level of the man who is father to her children, and the total number of children born to the woman. The first two columns of the table include both Blacks and Whites in the regressions. We do *not*, however, include race dummies in the specification because race is not directly observed by the prospective employer from the resume. The third and fourth columns of the table limit the sample only to Blacks. The entries in the table are the coefficient on the woman's BNI. Each table entry is from a different regression. The first and third columns do not include any covariates; the second and fourth column includes the woman's age, years of education, whether or not she has private health insurance (the best measure we have with respect to the quality of her current employment), zip code of residence fixed effects, and year dummies. These variables capture some of the information on a resume. Our sample is the set of women whom we observe both at their birth in 1973–1974 and as adults in 1989–2000.

The results in Table IV suggest that a woman's first name is indeed a useful predictor of the circumstances in which she grew up and her current situation, both of which may in turn be correlated with labor productivity. This is true even after including our crude set of controls that proxy for information available on the resume. A woman's name is a particularly important

TABLE IV  
THE SIGNALING VALUE OF NAMES TO EMPLOYERS

Dependent variable	Sample includes Blacks and Whites		Sample includes only Blacks	
	No controls included	Controls proxying for some information on a resume	No controls included	Controls proxying for some information on a resume
Percent of Black babies in woman's birth hospital	0.3015 (0.0026)	0.1417 (0.0045)	0.0690 (0.0064)	0.0526 (0.0085)
Woman born to a teenage mother	0.00260 (0.00005)	0.00209 (0.00009)	0.00238 (0.00011)	0.00232 (0.00016)
Woman born to an unmarried mother	0.00508 (0.00005)	0.00313 (0.00009)	0.00193 (0.00011)	0.00176 (0.00017)
Woman's birth weight (in grams)	-2.16 (0.07)	-1.03 (0.09)	-0.16 (0.13)	-0.11 (0.16)
Woman herself unmarried at time she gives birth	0.00338 (0.00006)	0.00111 (0.00006)	0.00038 (0.00010)	0.00023 (0.00009)
Years of education for the man who fathers the woman's child	-0.0050 (0.0003)	0.0002 (0.0004)	-0.0010 (0.0006)	-0.0006 (0.0006)
Total number of children born to the woman	0.00283 (0.00011)	0.00238 (0.00016)	0.00079 (0.00025)	0.00090 (0.00029)

The relevant dependent variable is listed on the left-hand side of the table. The values reported in the table are the coefficients on the Black Name Index of the woman. Each table entry is from a separate regression. In columns 1 and 3, no controls are included. In columns 2 and 4, controls for a woman's age, years of education, zip code of residence, whether the woman is privately insured, and year dummies are included. These variables proxy for some of the types of information available to employers on resumes. The sample used in all regressions is the set of black women for whom we successfully link information from their own birth certificate to their child's birth certificate. Unlike earlier regressions, these specifications control for choices that a woman makes over the course of her life, such as years of education. The number of observations is 62,309 for the sample that includes Blacks and Whites and 18,427 for the sample that only includes Blacks.

predictor when we pool Blacks and Whites in the same regression (columns 1 and 2). In column 2 a woman with a BNI equal to 100 (implying a name that no Whites have) is 20.9 percentage points more likely to have been born to a teenage mother and 31.3 percentage points more likely to have been born out-of-wedlock than a Black woman living in the same zip code with the same age and education, but carrying a name that is equally common among Whites and Blacks. The woman with a Black name is also much more likely to have been born in a Black neighborhood, to herself be unmarried, to have had lower birth weight, and to have given birth to more children. The same pattern of results, although generally somewhat smaller in magnitude, is apparent even when we restrict the sample to Blacks. In other words, even if the employer knows that a candidate is Black, the Blackness of

the name continues to serve as an important signal of socioeconomic status. Thus, while we cannot rule out animus on the part of employers, we find evidence supporting a potential productivity-related statistical discrimination motive for employers to base interview decisions on first names.

## V. CONCLUSION

We document stark differences in naming patterns between Blacks and Whites, and demonstrate that these patterns change sharply over time. While most Blacks have shifted toward more distinctively Black names (particularly in the late 1960s and early 1970s), the fraction of Blacks choosing starkly White names has also increased. How distinctively Black one's name was appears to have signaled little in the early 1960s. Naming conventions differed modestly across parental characteristics or neighborhood types. The last two decades, however, have led to a "ghettoization" of distinctively Black names, namely, a distinctively Black name is now a much stronger predictor of socioeconomic status. Among the theories we consider, models in which the rise of the Black Power movement triggers important changes in Black identity appear to be most consistent with our data. We find no relationship between how Black one's name is and life outcomes after controlling for other factors. If that conclusion is correct, then the proper interpretation of earlier audit studies using Black names on resumes is either that the impact of names does not extend beyond the callback decision (because race is directly observed at the interview stage), or that names are correlated with determinants of productivity not captured by a resume. In our data, it is difficult to distinguish between these competing hypotheses.

More generally, this paper takes first steps toward an attempt to understand what role Black culture might play in explaining continued poverty and racial isolation. With respect to this particular aspect of distinctive Black culture, we conclude that carrying a black name is primarily a *consequence* rather than a cause of poverty and segregation.

## APPENDIX: DATA DESCRIPTION

In this data appendix we describe the data sources that we draw upon in our analysis, give a description of some data limi-

tations and other data issues with which we are confronted, provide definitions, and describe the process used to link mothers.

### 1. Data Sources

*Birth Data:* Our empirical analyses are mainly based on data drawn from the Birth Statistical Master File maintained by the Office of Vital Records in the California Department of Health Services. These files provide information drawn from birth certificates for virtually all children born in California over the period 1961–2000. With the approval of the California Committee for the Protection of Human Subjects, we have been able to supplement the information contained on the public use versions of these data sets with personal identifiers including mother's first name, mother's maiden name, and child's full name.

*Zip Code Statistics:* U. S. Bureau of the Census, American Fact Finder, 1990 Census.

*Demographic and Socioeconomic Data:* For an accuracy check on mother-children links, data were obtained from the American Community Survey 5 Percent Public Use of Microdata Samples (PUMS) for California and United States (All States), U. S. Bureau of the Census *Arabic First Names:* To identify and discard Arabic names from our data, we used Bruce Lansky [1999], *Baby Names Around the World*.

### 2. Data Limitations and Other Data Issues

*Race/Ethnicity:* From 1998 to 2000, information of a child's race is missing. For these three years, a child is considered Black if either parent is Black. In other years, over 98 percent of children with at least one Black parent are coded as Black. Prior to 1982, most Hispanics are included with whites, and it is not possible to directly calculate statistics for Non-Hispanics. Beginning in 1982, an identifier for Hispanic ethnicity was added to the birth certificate in California. Using information from this latter period, we drop anyone in the earlier time period with a surname or mother's maiden name that is more than 10 percent Hispanic.

*Link of Birth Certificate Data for Women Born in 1973–1974 to When They Give Birth Themselves in the Period 1989–2000:* In order to uniquely link information from a woman's own birth certificate to those of her children when she gives birth, a woman must both be born in California and later give birth there. Only after 1989 do we have the mother's date of birth and full first name, two critical pieces of information for making the linkage. We thus limit the sample to babies born 1989–2000 to Black women themselves born in California. In order to identify women

whose birth histories are likely to be most fully captured by the period 1989–2000, we restrict the matching to women who were themselves born in 1973–1974. We restrict the sample to Black women born in California. We then carry out five different matching procedures in which we use a mother’s exact date of birth and permutations of her first name and maiden name (match only on maiden name, only on first name, on first name and maiden name, on first initial and maiden name, and on first name and maiden name initial). We keep only cases where the match between mother and child is unique; i.e., there is no other woman born in California in 1973–1974 who has information that could possibly match the characteristics of the mother on the birth certificate. Because of typographical errors, using only a subset of the information in a woman’s name somewhat increases the number of successful matches.

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