The Persistence of Skin Color Discrimination for Immigrants

Abstract

Under Title VII of the Civil Rights Act of 1964, discrimination in employment on the basis of color is prohibited, and color is a protected basis independently of race. Using data from the spouses of the main respondents to the New Immigrant Survey 2003, this paper shows that immigrants with the lightest skin color earn on average 16 percent to 23 percent more than comparable immigrants with the darkest skin color. These estimates control for years of legal permanent residence in the U.S., education, English language proficiency, occupation in source country, ethnicity, race, country of birth, as well as for extensive current labor market characteristics that may be themselves influenced by discrimination. Furthermore, the skin color penalty does not diminish over time. These results are consistent with persistent skin color discrimination affecting legal immigrants to the United States.

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I. Introduction

Using data from the Adult Sample of the New Immigrant Survey (NIS 2003) on a sample of immigrants to the U.S. who achieved legal status in 2003, I show that immigrants with darker skin color have lower wages than comparable immigrants with lighter skin color (Hersch 2008a). The magnitude of the pay penalty is striking: immigrants with the lightest skin color earn on average 17 percent more than comparable immigrants with the darkest skin color. I consider an array of explanations for the observed skin color pay penalty and ultimately conclude that discrimination against immigrants on the basis of skin color is the most likely explanation for the negative effect of darker skin color on pay. Because of the nature of the NIS Adult Sample, it is not possible to examine whether skin color discrimination has a long-term labor market effect.

This paper addresses the question of long-term labor market effects by examining whether pay discrimination on the basis of skin color is likely to diminish with the passage of time. Because all of the main respondents to the NIS Adult Sample achieved legal status in 2003, there is no variation among these immigrants in their duration of legal status and so this possibility cannot be examined with the NIS Adult Sample. However, the NIS also interviewed spouses of respondents. In contrast to the main respondents, spouses vary in whether they are immigrants or are native-born U.S. citizens. In addition to variation in immigration status, there is a great deal of variation in when immigrant spouses achieved legal residence status. Many of the spouses who are immigrants achieved legal status long before the main respondents to the NIS achieved legal residence status. This variation in the length of time that an immigrant has had legal

residence status provides the key source of variation that allows an examination of whether the effect of skin color on pay among immigrants diminishes over time.

Because the NIS spouse sample includes native-born U.S. citizens, I am also able to provide unique information on the relation between skin color and pay for all spouses in the NIS data set regardless of ethnicity or race. Evidence to date on the relation between skin color and wages for U.S. residents has been limited to non-white samples, mainly samples of African Americans with some studies examining Hispanics, since there is little data on skin color and wages for Americans of other races.

There are several reasons why the penalty to darker skin may diminish with longer time as a legal U.S. resident. First, skin color may be a proxy for illegal status, and as more time elapses, the perception of possible illegal status may diminish. Second, more time in the U.S. provides more time for adaptation to U.S. culture and norms, as well as the development of greater English language proficiency. Enhanced assimilation consequently may offset any residual discrimination on the basis of skin color. Third, more time as a legal U.S. resident allows for more time for job changing in order to find a better job match, perhaps one in which skin color discrimination is absent.

To summarize the findings, the basic wage regression results show a skin color penalty for immigrant spouses of a magnitude similar to but somewhat larger than that found in Hersch (2008a). In contrast, skin color is not related to wages for native-born U.S. citizens. Because wages are higher for immigrants with more years of legal permanent residence, it may seem that discrimination generally is reduced over time. However, although immigrants seem to have moved into jobs which are not correlated with skin color, the skin color penalty is not reduced by

longer duration with legal permanent residence status. Thus, skin color discrimination against immigrants may be a persistent problem.

Title VII of the Civil Rights Act of 1964 prohibits discrimination on the basis of color, as well as on the basis of race, religion, sex, and national origin. The implications of on-going discrimination on the basis of skin color can be observed in the rising number of claims of color discrimination reported to the Equal Employment Opportunity Commission (EEOC). Claims of skin color discrimination filed with the EEOC have increased substantially over time, from under 400 in 1992 to 2,949 in 2009.[1] Identifying whether observed differences in pay on the basis of skin color reflect legitimate productivity differences or are instead due to discrimination is the critical question in the legal context. This paper and related papers (Hersch 2008a, 2008b) indicate that discrimination on the basis of skin color rather than productivity differences is the most likely source of the penalty to darker skin color, and that the penalty does not erode with time as a legal permanent U.S. resident.

II. The New Immigrant Survey 2003: Spouse Data

The NIS is comprised of two samples, an Adult Sample and a Child Sample.[2] Both sample frames are based on electronic records maintained by the U.S. government. The Adult Sample provides a nationally representative sample of 8,573 adult immigrants admitted to legal permanent residence status in 2003. The sampling design for the Adult Sample is comprised of four strata: spouses of U.S. citizens, employment-visa principals, diversity-visa principals, and all other visa types. The NIS sampling frame undersamples spouses of U.S. citizens and oversamples employment-visa principals and diversity-visa principals.

[1] See Dahleen Glanton, "Bigotry Takes on a Different Shade," *Chicago Tribune*, January 17, 2010, available at http://www.chicagotribune.com/news/chi-colorism_glantonjan17,0,7012546.story.
[2] See http://nis.princeton.edu/overview.html.

The Child Sample provides a sample of 810 children admitted to legal permanent residence status in 2003 as either a child of a U.S. citizen who is under age 18 or as an adopted orphan under age 5. Except for the components of the survey asked directly of the sampled children, a proxy adult responds to the questions for those in the Child Sample. All survey respondents were interviewed as soon as possible after achieving lawful permanent resident status. For both samples, spouses of the primary respondent are also interviewed. These spouses form the sample analyzed in this paper. There are 4,334 interviewed spouses of respondents in the Adult Sample and 581 interviewed spouses of child proxy respondents in the Child Sample. Of the 4,915 spouses who are interviewed, 4,097 are themselves foreign-born.

The survey provides detailed demographic and labor market information for both the main respondent in the Adult Sample and for all interviewed spouses. Interviewers report skin color for those spouses interviewed in person using the same color scale used to report skin color of primary respondents. Although much of the same information available for the main adult respondent is also available for the spouses, not all information is available. Some information, such as detailed information on the immigrant class of admission, is available from the electronic government records for the immigrants selected for inclusion in the Adult and Child Samples. Corresponding visa information is not available in the public-use release of the spouse data, and in any case would be self-reported and possibly less reliable.[3] It is not possible to use the available information on spouses to estimate the identical wage equation specifications presented in Hersch (2008a), although it is possible to estimate very similar equations.

In addition to differences in available information between the main adult respondents and the spouse respondents, there are some key differences between the sample of main respondents

[3] Spouses are asked their country of citizenship and visa type in the series of questions k1mo through k2e_2mo; however this information is suppressed in the public-use data set.

analyzed in Hersch (2008a) and the sample of spouse respondents analyzed here, as well as some key differences in the information available. One obvious difference is that the main adult respondent or child proxy respondent can be married or unmarried. However, all of the respondents in the spouses sample are included because they are married to a primary respondent. Because marital status is associated with a number of social and economic outcomes, such as better health and higher pay for married men, it is possible that any results based on a sample of married individuals will differ from those based on a sample not selected on the basis of marital status.

A second difference is that although the NIS sampling frame provides a nationally representative sample of immigrant adults and children, the spouses do not necessarily form a nationally representative sample of immigrants or native-born U.S. citizens. For instance, although spouses of U.S. citizens who are selected to be main respondents in the Adult Sample form part of a nationally representative sample of immigrants (once sample weights are used), those U.S. citizen spouses who marry immigrants are not a representative sample of the population of U.S. citizens. The weight assigned to the spouse is identical to that assigned to the corresponding primary respondent and is not tailored to reflect the probability of selecting a spouse of any particular characteristic. For the spouses of the main respondent, the sample weights can therefore be used to provide a representative sample of *spouses* of new legal immigrants. Similarly, for spouses of child proxy respondents, the sample weights can be used to provide a representative sample of *spouses* of parent-sponsors of sampled children.[4]

[4] Given the differences in the construction of the Adult Sample and Child Sample, there is a question of whether spouses drawn from both samples should be analyzed together. Preliminary investigations suggested that spouses from the two samples should not be pooled. However, because the sample of native-born U.S. citizens with reported skin color is small, in the comparison of the distribution of skin color between immigrant spouses and native-born spouses, I use data on all spouses with reported skin color.

The unique advantage of the spouse sample is that spouses vary in whether they are themselves immigrants. Among those who are immigrants, these spouses vary in whether and when they received legal permanent residence status. In contrast to the main respondents to the NIS, who all became legal residents in 2003, the spouses' legal permanent residence status could have been granted prior to 2003. Spouses in the sample can therefore be grouped into two categories: those who are native-born U.S. citizens and those who are immigrants. The immigrant group can be further analyzed based on time since achieving legal permanent residence status.

III. Empirical specification

I estimate a conventional log wage equation augmented by a measure of skin color of the following general form.[5]

(1) $\ln \text{wage} = X\beta + Z\delta + \gamma S + \varepsilon$

The dependent variable is the log of hourly wage. X is a vector of demographic and human capital characteristics determined before entering the U.S. labor market such as age, physical characteristics, and education. In some specifications based on the sample of spouses who are immigrants, I include in X measures of occupation prior to migrating to the U.S. The characteristics included in X are interpreted as those characteristics that would affect earnings in both the source country and in the United States. Z is a vector of current individual and labor market characteristics that may affect wages in the U.S. labor market but are exogenous to the process of discrimination under study. Country of birth is included in the vector Z because countries differ in many characteristics, such as quality of education and culture, which may

[5] See Hersch (2008a) for a discussion of the theoretical foundations of the wage equation used to estimate the relation between skin color and wage for a sample of immigrants.

affect the productivity of immigrants once they are employed in the United States. In some specifications I include the length of time the immigrant has held legal permanent residence status in the United States. S denotes skin color, which is measured so that higher values of S indicate darker skin color. The random error term is given by ε. In some specifications, I include in the wage equations current job-related characteristics such as tenure and occupation. However, as the characteristics of the current job may be influenced by any existing skin color discrimination, such characteristics may be determined endogenously with wages. For this reason I present wage regressions without as well as with current labor market characteristics.

The wage equations also include as part of the vector Z indicator variables for Hispanic ethnicity and race, as well as for country of birth for immigrants. Because of widespread evidence of discrimination in the U.S. labor market on the basis of Hispanic ethnicity and non-white race, controlling directly for ethnicity and race isolates the effect on wages of skin color net of any direct effect of ethnicity and race. It is important to note that ethnicity, race, and nationality are all highly correlated with skin color. It is therefore possible that the precision of the estimates of the effect of skin color on wage are reduced by multicollinearity.

IV. Variable definitions

The variables used in the wage equation estimates are defined as follows.[6] The first set of variables is included in the wage regressions for both immigrant spouses and native-born U.S. spouses. Additional variables that are available only for the immigrant spouses are then discussed.

[6] The empirical specification follows the analysis presented in Hersch (2008a) as closely as possible. Differences in specification that arise from differences in availability of information are noted below. See Hersch (2008a) for additional information.

The dependent variable in the wage equations is the log of hourly wage. Spouses self-report their hourly wage rate (for those paid hourly) or salary and the corresponding time unit (for those paid other than hourly). Self-employed workers who report that they are paid a regular salary or wage also report their earnings. The measure of hourly wage used in the wage equations is either the wage reported by the respondent or is calculated from information on hours worked, salary, and pay period.

The key variable in this analysis is the unique information on skin color. Interviewers record skin color based on their observation as one of 11 values ranging from 0 (albino) to 10 (the darkest possible skin color), using a color scale designed by Massey and Martin (2003). The scale shows a series of otherwise identical hands with skin color increasing in darkness. Skin color is missing for all spouses who were interviewed either entirely or partly by phone. Observations with missing skin color information are excluded from the wage equation analysis.

Hersch (2008a) provides a detailed analysis of the validity of the NIS skin color scale. The color scale is shown to be a highly reliable measure of skin color, with reported skin color values within a country corresponding to objective skin color levels for the same country measured by reflectance spectrometer. There is no evidence that interviewers are biased in their assignment of skin color ratings. Furthermore, in contrast to the three-to-five categories of skin color available in most data sets, which provide only an ordinal ranking of skin color, the 11-point scale used in the NIS can appropriately be treated as a cardinal variable based on an analysis of the wage equation estimates using the main adult respondent.

Because skin color is assigned by interviewer observation, there may be measurement error, but the close concordance of the NIS skin color measure with objective measures suggests that any such measurement error is more likely to be random than it is to be systematic. If there is

random measurement error, the estimated effect of skin color on wages will be biased toward zero and will be estimated as smaller than true.

Height and weight may influence wages, and may also affect the relation between skin color and wages. As shown in Hersch (2008a), with the exception of immigrants from countries that have a majority black population, there is a correlation between average country height and average country skin color, where immigrants from countries with darker average skin color are also on average shorter. Because height may have a direct productivity effect, part of any estimated effect of skin color on pay may reflect the correlation between skin color and height rather than the direct influence of skin color. Inclusion of information on height in the wage equations eliminates this possible source of bias.

Height and weight are self-reported by the respondents using the units of the respondent's choice (e.g., centimeters and meters, inches and feet, kilos or pounds). I convert height to inches and weight to pounds for all respondents, and also calculate the body mass index (BMI) from information on height and weight.

In order to allow height to have a nonlinear effect on wages, I calculate the difference between each individual's height and the U.S. gender-specific mean height and allow the effect of height below the gender-specific mean to differ from the effect of height above the gender-specific mean. In order to likewise allow weight to have a nonlinear effect on wages, I define indicator variables for those who are obese (BMI of 30 or higher), overweight (BMI at least 25 and less than 30), or normal weight (BMI under 25, with the few respondents that would be categorized as underweight based on BMI included with those of normal weight).

The wage regressions control for both age and its square. Age is calculated from year of birth, which is reported by the main respondents for themselves and for their spouses, as well as

directly by spouses. I define spouse's age as the difference between their interview year and birth year, both reported by the spouse; for spouses who did not report their birth year but their birth year was reported by the main respondent, I define age as the difference between the main respondent's interview year of the survey and the main respondent's report of their spouse's birth year.[7]

All respondents were offered the option of conducting the interview in their choice of language. Main adult respondents self-reported their English language proficiency, and the self-reported measure of how well the respondent understood English is used in Hersch (2008a). However, spouses were not asked to report their English language proficiency. As an indicator of English language proficiency, I control for whether the interview was conducted in English, recognizing that this is not an ideal measure as individuals who may have strong English language skills may have chosen to conduct the interview in a language other than English.

The primary adult respondents reported their own educational attainment as well as that of their spouses. Spouses are not asked to report their own education. I use in the analyses years of education reported by the main respondent when available. For observations for which the main respondent did not report years of education, but did report their spouse's highest degree, I assign years of education based on highest degree as follows: high school, 12; associates, 14; bachelors, 16; masters, 18; doctorate, 21; JD/MD, 20.

The survey reports information separately on years of education completed in the U.S. and years of education completed outside of the U.S., as well as country of highest degree. However,

[7] I use the date of the interview to calculate several variables used in the analysis, such as age, tenure with employer, and whether the interview occurred before or after a reminder memo was sent to interviewers to clarify the use of the skin color scale. The month and year of the interview, but not the day of the month, is reported for spouses. The specific interview date is recorded for the main respondents. The main respondents and their spouses were interviewed on the same month and year for 75 percent of the 4,334 observations with data for both spouses. For those in which the month and year match, I assume that the interviews occurred on the same date. Otherwise, I use the spouse's reported interview month and year and assume the interview occurred on the 15th of the month.

as shown in Hersch (2008a), the return to education attained in the U.S. is not statistically different from education attained outside the U.S. Furthermore, the effect of skin color on wages is not affected by whether education is divided into that completed in the U.S. and outside of the U.S., nor whether education is measured as years of education or by controlling for highest degree. Thus the wage regressions reported in this paper control for years of education no matter where attained.

All NIS respondents are asked to report whether they are of Hispanic or Latino ethnicity as well as to report their race. The five provided racial categories are American Indian or Alaskan Native, Asian, Black, Native Hawaiian or Other Pacific Islander, and White. Although respondents have the option of reporting more than one race, few do so. Most of the respondents who do not report their race report that they are Hispanic or Latino. I create an indicator variable for Hispanic/Latino ethnicity and create seven mutually exclusive categories for race. Five of the categories are those who report only one of the five racial categories. A sixth group are those who report more than one racial group. The final group is comprised of those with missing value on race. Spouse respondents also report their country of birth. I include indicator variables for country of birth, where the specific country is identified for the 22 countries sending the largest number of immigrants, with the remaining countries grouped by broad region.

To control for regional differences in average pay, I include indicators for region of the U.S. Region is based on location where the main respondent's green card was sent, or in the case of spouses of child proxy respondents, the location where the child's green card was sent. I also include an indicator for survey year to allow for price level changes, as well as an indicator for surveys completed after a memo was sent to interviewers to warn against overuse of the skin color rating of zero.

Although it is customary to control for potential work experience in wage equations when measures of actual work history are not available, it is unclear how to construct a measure of work experience that would have a consistent meaning for both immigrants and native-born U.S. citizens. The measure of potential U.S. experience used in Hersch (2008a) is the difference between the interview year and the year of the first job in the United States. However, this measure is not available for native-born U.S. citizens. In order to use a common specification for immigrant and native-born U.S. workers, in the wage equations that are estimated for all spouses, I control for age, age squared, and education instead of potential experience.

In some specifications I include measures of current labor market characteristics, noting that these characteristics are potentially influenced by skin color discrimination and therefore may not be exogenous with respect to wage. Because all spouses are asked the same set of questions regarding their current employment as are the main respondents in the Adult Sample, the available variables are the same as those used in Hersch (2008a). Specifically, I control for tenure with current employer and its square, as well as indicators for government employer, paid hourly rate (rather than salaried), full-time employment, self-employment, and broad occupational category (professional and managerial, health, services, sales and administrative, and production, with production occupation forming the omitted category in the wage regressions). I also control for whether the worker's job is likely to involve outdoor work, based on the Bureau of Labor Statistics classification of occupations with extensive outdoor work (Kasper 2004). Outdoor work may cause skin to darken and also may be associated with lower pay.

The remaining variables are specific to immigrants. Immigrant spouses were asked if they had ever had a green card. Those who had ever had a green card were asked to report the year

that they became a legal permanent resident. For those reporting the year that they became a legal permanent resident, I calculate the number of years since they became a legal permanent resident as the difference between the interview date and the reported year. Those who report that they have never had a green card are considered to have zero years as a legal permanent resident.

For those reporting their last occupation before migrating, occupation is grouped into five occupational categories: professional and managerial, health, services, sales and administrative, and production. Because not all spouses report an occupation before migrating, there is no omitted occupational category. The effect of previous occupation is estimated relative to those not reporting an occupation.

Hersch (2008a) uses father's education and relative family income at age 16 to control for family background in the respondent's source country. To the extent that there is skin color discrimination in the source country, those with darker skin color relative to their fellow citizens in the source country may have weaker relevant labor market characteristics as a consequence of any such discrimination. Inclusion of information on family background will mitigate possible bias arising from any discriminatory treatment on the basis of skin color experienced in the source country. However, spouse respondents do not report information on their family background. The main adult respondents report relative family income for their spouses, but do not report their spouses' father's education. As shown in Hersch (2008b), the coefficient on skin color is not affected by whether these variables are included in the wage equations based on the sample of main respondents. Thus omitted family background is unlikely to be an important source of bias in the current analysis. Hersch (2008a) also controls for type of visa and whether the immigrant is a new arrival rather than one who is adjusting visa status while living in the

U.S. This information is likewise not reported for spouses. However, as shown in Hersch (2008b), the coefficient on skin color is not affected by inclusion of information on visa status.

V. Sample characteristics

Before turning to discussing the characteristics of the sample used in the wage equation estimation, it is useful to compare the skin color of immigrant spouses to the skin color of the native-born U.S. spouses using all observations with skin color reported in the spouse sample, regardless of employment status or whether they are included in the spouse sample as a spouse of a member of the adult sample or as a spouse of a child proxy respondent.

As Figure 1 shows, the skin color distribution for native-born U.S. citizens is shifted to the left of the immigrant distribution showing that immigrants tend to have darker skin color. However, although a chi-square test confirms that the distributions are significantly different from each other at the 1 percent level, it is also notable that the distributions are not starkly different. Also note that for both native-born and immigrant spouses, the full range of the skin color scale is used.

In part the difference in the skin color distribution arises from differences in the mix of ethnicities and races, with far larger shares of Hispanics/Latinos and Asians within the sample of immigrant spouses than within the sample of native-born U.S. spouses. To determine whether the average skin color rating difference is due to the ethnic and racial composition of the two samples, Table 1 presents estimates of a skin color regression controlling for ethnicity, race, sex, and an indicator for native-born respondents. The regressions show that native-born U.S. citizens have somewhat lighter skin color even controlling for ethnicity and race. On average, native-born U.S. spouses are rated 0.5 points lower on the 11-point skin color scale than immigrant

spouses, controlling for Hispanic/Latino ethnicity and for race. There is no obvious reason for the lighter average skin color ratings for native-born spouses. Women have on average lighter skin color, which is consistent with known gender differences in skin color within indigenous populations.[8]

The wage regressions are based on spouses of the main respondents in the Adult Sample who are working for pay in the U.S., with hourly wage between $1.50 and $100 per hour, and for whom skin color is reported. Individuals with missing values on other variables used in the analysis (e.g., age, education) are included in the analysis and identified by an indicator variable. Appendix A indicates the effect on sample size of each restriction. The resulting sample sizes are 1,023 immigrants and 167 native-born U.S. citizens. Table 2 reports sample means or percents for the variables used in the wage regressions.

Note that although the native-born sample is on average more than five years younger than the immigrant sample, native-born workers have on average a higher hourly wage, with an average hourly pay rate of $16.77 for native-born workers and $14.16 for immigrant workers. The native-born sample has higher average education, are far more likely to conduct the interview in English, and are far more likely to hold a professional or managerial occupation. Unsurprisingly, the ethnic and racial profile differs by immigrant status, with 46 percent of the immigrant sample but only 31 percent of the native-born sample reporting their ethnicity as Hispanic/Latino. In addition, 26 percent of the immigrant sample reports their race as Asian, in contrast to less than 5 percent of the native-born sample. Native-born spouses are nearly 2 inches taller on average than immigrant spouses and are far more likely to be obese. These differences in average physical characteristics are not due to gender differences in the composition of the two samples as both samples are slightly over 60 percent male.

[8] See Hersch (2008a) for a discussion of this literature.

VI. Regression results

Table 3 presents wage regressions for the samples of immigrant and native-born spouses. The basic specifications reported in column 1 for immigrants and column 3 for non-immigrants control for demographic characteristics and other pre-U.S. labor market characteristics associated with current employment, but not for ethnicity, race, or country of birth. Columns 2 and 4 add indicators for Hispanic/Latino ethnicity and race. Column 2 additionally includes indicator variables for country or region of birth for the immigrant sample. Country controls are unnecessary for the sample of native-born U.S. spouses.

Before discussing the regression results, some caveats are in order. First note that the sample size for native-born spouses is small, with only 167 observations. Second, as discussed earlier, everyone in the sample is married, and in addition, the sample weights are not designed to create nationally representative samples of either immigrants or of native-born U.S. citizens. The regression results may therefore differ from similar estimates based on data from, say, the Current Population Survey. Nonetheless, the results in the wage equation for both samples are similar to those typically found in wage equation estimation. Wages are higher for those with more education. In the native-born sample, wages rise with age at a decreasing rate. Immigrant men have higher wages on average than comparable immigrant women, but there is no pay disparity on the basis of sex within the native-born sample. This result, however, may be due to the small and non-representative sample. Immigrants who were not interviewed in English have wages that are on average 11 percent lower than comparable immigrants who were interviewed in English. As found in Hersch (2008a), immigrants who are taller than the U.S. gender-specific height have a wage advantage of about 2 percent with every inch above average, significant at the 10 percent level in column 2. Somewhat surprising is that immigrant spouses who are obese,

and native-born spouses who are overweight, have higher wages on average than their normal weight counterparts.

Of particular interest is the effect of skin color on wages. Within the sample of immigrant spouses, there is a large and statistically significant negative effect on wage of darker skin color. In the estimates reported in column 1 that exclude ethnicity, race, and country, the coefficient is -0.016 and is statistically significant at the 5 percent level. Additionally including controls for Hispanic ethnicity, race, and country of birth, all of which are correlated with skin color, leads to a larger and statistically significant coefficient on skin color of -0.023, reported in column 2. The magnitude of the skin color penalty is consistent with the findings of Hersch (2008a). The magnitude implies that an additional unit of skin color darkness on the 11-point scale lowers wages on average by 1.6 to 2.3 percent, significant at the 5 percent level.[9]

In contrast to the results for immigrant spouses, the results for native-born U.S. spouses reported in columns 3 and 4 do not show a significant effect of skin color on wages. The coefficient on skin color is nearly zero, suggesting that the insignificant skin color effect is not merely due to a small sample. This does not necessarily mean that skin color is not related to wages within ethnic or racial subgroups, although the sample size is too small to reliably estimate wage equations for specific ethnic or racial groups. However, estimates stratifying the native-born sample into non-Hispanic whites (95 observations) and the remaining 72 observations likewise show a small and statistically insignificant effect of skin color on wages.

[9] As noted earlier, country of birth is identified for the 22 countries sending the most immigrants, with the remaining countries grouped by region. Country of birth indicators are included in the wage regressions to control for skill differences that differ by country. Thus, controls for region rather than individual country may mask unobserved intracountry heterogeneity and may influence the relation between skin color and wages. In Hersch (2008a), the magnitude of the skin color effect is larger in the sample in which individual country of birth is identified than in the sample in which either country or region is reported. Because of the smaller number of observations in the spouse sample, these results include all eligible spouses regardless of whether individual country or region is reported. The results of this paper should be compared most directly to Table 4 of Hersch (2008a).

Inclusion of spouses of child proxy respondents increases the sample size to 229 but similarly shows no effect of skin color on wages within the native-born sample.

Thus, based on the evidence in this paper, the skin color penalty apparently is limited to immigrants. To further explore the basis for the skin color penalty, Table 4 presents additional results for the immigrant sample to examine whether the skin color effect for immigrants is affected by inclusion in the equations of richer information on pre-U.S. labor market experiences or by the length of time the immigrant has had legal status, as well as by inclusion of current labor market characteristics. All of the equations reported in Table 4 control for ethnicity, race, and country of birth.

The wage regression reported in column 1 adds indicator variables for the occupation held before migrating to the U.S. to the specification reported in column 2 of Table 3. Skin color continues to show a negative and statistically significant effect on wages. The coefficient on skin color is -0.23, which is the same as that shown in column 2 of Table 3, which excludes pre-U.S. labor market occupation. Column 2 additionally includes the length of time the immigrant has been a legal permanent resident and its square. Wages rise with time as a legal permanent resident at a decreasing rate (although the coefficient on the quadratic term is not statistically significant at a conventional level). The coefficient on skin color is reduced slightly by inclusion of time as a legal permanent resident, to -0.20, and remains statistically significant at the 5 percent level.

The results reported in column 3 are of particular interest. Column 3 adds to the specification in column 2 the interaction of skin color with the length of time the immigrant has had legal status in the United States. If skin color discrimination diminishes with time as a legal permanent resident, the coefficient on the interaction term would be negative. However, the

coefficient on the interaction of skin color with time as a legal resident is positive and very close to zero, indicating no diminution of the effect of skin color on wages over time.

The last column of Table 4 includes current labor market characteristics. If skin color discrimination affects the types of jobs available to immigrants, then inclusion of current labor market characteristics will lead to a smaller coefficient on skin color than in regressions that do not control for current labor market characteristics. However, as the results in column 4 show, the magnitude of the coefficient on skin color is reduced only slightly by inclusion of current labor market characteristics, to -0.18, and remains statistically significant at the 10 percent level. For comparison, wage equations reported in Hersch (2008a) show a substantial drop in the magnitude of the skin color effect once current labor market characteristics are included. The coefficient on skin color with current labor market characteristics included is about two-thirds the magnitude as when such characteristics are excluded. Because all of the main adult respondents became legal in 2003, while many of those in the spouse sample became legal at an earlier time, the comparison of the results suggests that those with a longer time as a legal permanent resident in the U.S. have had greater opportunities to make job matches that are not associated with skin color.

VII. Conclusion

This paper supports and extends the main finding of Hersch (2008a): there is substantial evidence of discrimination on the basis of skin color for legal immigrants in the United States. The magnitude of the pay penalty on the basis of skin color is large, with immigrants with the lightest skin color earnings 16 percent to 23 percent more than comparable immigrants with the darkest skin color. Furthermore, this paper provides the first evidence on whether the skin color penalty is likely to diminish as immigrants accrue more time in the U.S. since achieving legal

permanent residence status. If darker skin color is interpreted as a proxy for 'foreign,' then more time with legal status in the U.S. should reduce the penalty to skin color, as immigrants acclimate to U.S. culture. However, the skin color penalty does not diminish with time, suggesting that skin color discrimination affecting immigrants is a persistent phenomenon. Further, finding a suitable job match where skin color is not important likewise does not reduce the skin color penalty.

Projected population trends in the U.S. indicate that the country is becoming less white, with the share of non-Hispanic single-race-white population expected to decrease from 66 percent of the population in 2008 to 46 percent of the population by 2050.[10] This population trend in combination with the rising number of color discrimination charges filed with the EEOC suggest that concerns about skin color discrimination, as well as color discrimination litigation, may become more pronounced in the near future.

[10] See http://www.census.gov/Press-Release/www/releases/archives/population/012496.html.

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Appendix A: Construction of Spouse Sample

	Net number affected	Number remaining
Spouses of main respondent		4,334
Not working for pay	1,649	2,685
Not working in U.S.	33	2,652
Self-employed and not paid regular salary or wage	122	2,530
Missing wage	459	2,071
Wage < $1.5 or > $100	15	2,056
Missing skin color	866	1,190
Not foreign-born	167	1,023

Source: New Immigrant Survey 2003.

Table 1: Regression of Skin Color on Ethnicity, Race, and Immigrant Status[a]

Dependent variable: Skin color

Hispanic/Latino	1.381**
	(0.083)
American Indian/Alaska Native	0.837**
	(0.221)
Asian	1.451**
	(0.096)
Black	4.582**
	(0.133)
Native Hawaiian/Other Pacific Islander	2.007**
	(0.328)
Multiple races reported	0.728+
	(0.380)
Race not reported	1.071**
	(0.152)
Native-born U.S. spouse	-0.513**
	(0.089)
Male	0.140*
	(0.056)
Constant	2.523**
	(0.075)
Adjusted R-squared	0.35
Observations	2,751

a. Standard errors in parentheses. * significant at 5%; ** significant at 1%. The omitted racial category is single race white. All values weighted by NIS sample weight.

Table 2: Descriptive Statistics for Samples Used in Wage Regressions[a]

	Mean (standard deviation) or percent	
	Immigrant spouse	Native-born U.S. spouse
Demographic characteristics:		
Hourly wage	14.16 (10.01)	16.77 (9.69)
Skin color	4.00 (2.00)	2.71 (2.05)
Height	66.00 (3.88)	67.90 (3.84)
Inches below U.S. gender average height	2.25 (2.63)	0.97 (1.64)
Inches above U.S. gender average height	0.61 (1.35)	1.24 (1.81)
BMI	26.27 (4.50)	27.73 (5.35)
Obese	16.36	27.00
Overweight	41.67	38.71
Male	62.83	61.05
Age	39.38 (9.29)	33.97 (10.00)
Education	12.36 (4.78)	14.57 (3.19)
Interview not in English	46.51	15.66
Pre-immigration experiences:		
Professional, managerial occupation	17.78	
Health occupation	1.71	
Services occupation	4.62	
Sales and administrative occupation	9.86	
Production occupation	18.46	
No pre-immigration occupation	47.57	
Legal residence status		
Ever had green card	82.83	
Years since green card, if ever	6.21 (8.18)	
Current labor market characteristics		
Tenure	4.46 (5.28)	4.83 (5.20)
Professional, managerial occupation	16.29	32.16
Health occupation	7.86	3.79
Services occupation	22.35	9.10
Sales and administrative occupation	17.76	27.96
Production occupation	35.19	25.74
Government employer	7.07	23.73
Union contract	14.87	18.22
Outdoor work highly probable	5.02	3.32
Paid hourly rate	64.21	55.20
Full-time	86.91	87.99
Self-employed	4.54	3.22

Location where green card sent:		
Northeast	27.98	16.07
Midwest	19.01	24.48
West	38.85	45.44
South	14.16	14.01
Ethnicity and race:		
Hispanic/Latino	46.10	31.47
American Indian/Alaska Native	2.55	1.81
Asian	25.63	4.88
Black	7.41	4.58
Native Hawaiian/Other Pacific Islander	1.59	1.11
White	57.05	83.56
Multiple races	0.69	0.00
Race not reported	5.07	4.06
Percent with missing values:		
Height	4.07	3.59
BMI	5.25	6.93
Age	1.87	1.46
Education	2.54	4.28
Tenure	0.38	0.68
Number of observations	1,023	167

a. Source: Author's calculations from the New Immigrant Survey 2003. Sample is comprised of spouses of main adult respondents who are employed in the U.S., with hourly wage between $1.50 and $100, and with skin color reported. All values weighted by NIS sample weight. Means for height, BMI, age, education, and tenure calculated using observations without missing values.

Table 3: Wage Equation Estimates: Immigrant and Native-born U.S. Spouses
Dependent variable = ln (hourly wage)[a]

	Immigrant spouse		Native-born U.S. spouse	
	(1)	(2)	(3)	(4)
Skin color	-0.016*	-0.023*	-0.009	-0.007
	(0.008)	(0.010)	(0.018)	(0.025)
Male	0.234**	0.236**	0.030	0.014
	(0.035)	(0.036)	(0.075)	(0.076)
Inches below U.S. gender average height	-0.000	-0.004	0.019	0.025
	(0.007)	(0.007)	(0.024)	(0.025)
Inches above U.S. gender average height	0.019	0.024+	0.016	0.021
	(0.013)	(0.014)	(0.022)	(0.022)
Obese	0.133**	0.111*	0.164+	0.148
	(0.049)	(0.052)	(0.092)	(0.093)
Overweight	0.034	0.010	0.180*	0.171*
	(0.036)	(0.038)	(0.085)	(0.086)
Age	0.011	0.008	0.082**	0.082**
	(0.012)	(0.012)	(0.022)	(0.023)
Age squared/100	-0.015	-0.010	-0.093**	-0.094**
	(0.014)	(0.014)	(0.028)	(0.029)
Interview not in English	-0.111**	-0.117**	-0.079	-0.114
	(0.035)	(0.039)	(0.100)	(0.119)
Education	0.037**	0.039**	0.064**	0.063**
	(0.004)	(0.004)	(0.012)	(0.012)
Northeast	-0.023	-0.007	-0.154	-0.166
	(0.052)	(0.058)	(0.125)	(0.125)
Midwest	-0.005	0.023	-0.205+	-0.218+
	(0.056)	(0.066)	(0.115)	(0.116)
West	-0.004	-0.034	-0.245*	-0.263*
	(0.050)	(0.061)	(0.104)	(0.106)
Skin color reminder memo	0.056	0.062	0.058	0.072
	(0.042)	(0.043)	(0.093)	(0.094)
Year 2004	-0.018	-0.027	-0.167+	-0.177+
	(0.044)	(0.044)	(0.097)	(0.098)
Hispanic/Latino		0.067		0.033
		(0.092)		(0.105)
American Indian/Alaska Native		-0.177+		-0.166
		(0.103)		(0.266)
Asian		-0.077		-0.169
		(0.106)		(0.165)
Black		-0.058		-0.116
		(0.127)		(0.220)
Native Hawaiian/Other Pacific Islander		0.077		0.612+
		(0.138)		(0.335)

Multiple races		0.236 (0.196)		0.000 (0.000)
Race not reported		-0.041 (0.075)		0.053 (0.182)
Constant	1.750** (0.252)	1.818** (0.271)	0.231 (0.439)	0.234 (0.444)
Adjusted R-squared	0.18	0.20	0.26	0.26
Observations	1,023	1,023	167	167

a. Standard errors in parentheses. + significant at 10%; * significant at 5%; ** significant at 1%. All values weighted by NIS sample weight. Indicator variables for missing values for height, BMI, age, and education are included in the equations, but these coefficients are not reported. Indicator variables for country of birth are included in the equation reported in column 2, but these coefficients are not reported.

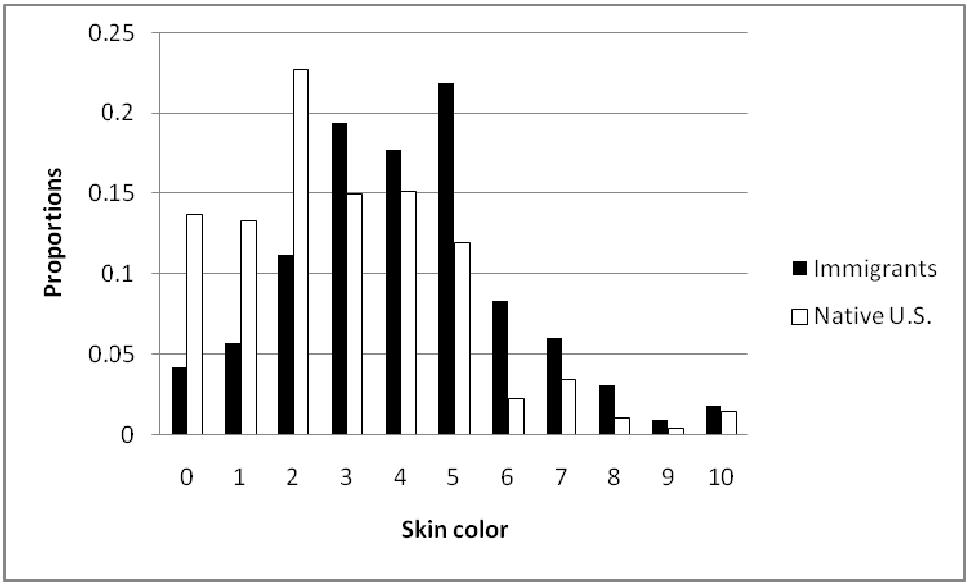
Table 4: Alternative Wage Equation Estimates for Immigrant Spouses
Dependent variable = ln (hourly wage)[a]

	(1)	(2)	(3)	(4)
Skin color	-0.023*	-0.020*	-0.021+	-0.018+
	(0.010)	(0.009)	(0.011)	(0.010)
Years legal permanent resident		0.024**	0.023**	0.016*
		(0.005)	(0.007)	(0.006)
Years legal permanent resident squared/100		-0.032	-0.031	-0.034+
		(0.021)	(0.021)	(0.019)
Skin color × years legal resident			0.0001	0.0001
			(0.0010)	(0.0010)
Male	0.227**	0.202**	0.202**	0.160**
	(0.037)	(0.036)	(0.036)	(0.035)
Inches below U.S. gender average height	-0.004	-0.004	-0.004	-0.003
	(0.007)	(0.007)	(0.007)	(0.006)
Inches above U.S. gender average height	0.027*	0.023+	0.023+	0.012
	(0.014)	(0.013)	(0.013)	(0.012)
Obese	0.110*	0.079	0.079	0.042
	(0.052)	(0.050)	(0.051)	(0.045)
Overweight	0.019	0.008	0.008	0.004
	(0.038)	(0.037)	(0.037)	(0.033)
Age	0.010	0.013	0.013	0.004
	(0.012)	(0.012)	(0.012)	(0.011)
Age squared/100	-0.012	-0.016	-0.016	-0.005
	(0.014)	(0.014)	(0.014)	(0.013)
Interview not in English	-0.113**	-0.110**	-0.110**	-0.064+
	(0.040)	(0.039)	(0.039)	(0.035)
Education	0.038**	0.037**	0.037**	0.019**
	(0.004)	(0.004)	(0.004)	(0.004)
Professional, managerial occupation before U.S.	0.020	0.091+	0.092+	0.021
	(0.049)	(0.048)	(0.048)	(0.044)
Health occupation before U.S.	0.023	0.102	0.102	0.151
	(0.126)	(0.123)	(0.123)	(0.114)
Services occupation before U.S.	-0.238**	-0.159*	-0.159*	-0.083
	(0.081)	(0.079)	(0.079)	(0.071)
Sales and administrative occupation before U.S.	-0.136*	-0.061	-0.061	-0.058
	(0.058)	(0.057)	(0.057)	(0.052)
Production occupation before U.S.	-0.014	0.046	0.046	0.076+
	(0.048)	(0.047)	(0.047)	(0.043)
Northeast	-0.006	0.002	0.002	-0.015
	(0.058)	(0.056)	(0.056)	(0.051)
Midwest	0.032	0.033	0.032	0.051
	(0.065)	(0.064)	(0.064)	(0.057)
West	-0.017	-0.000	-0.000	0.039
	(0.061)	(0.059)	(0.059)	(0.054)

Skin color reminder memo	0.048 (0.043)	0.049 (0.041)	0.049 (0.041)	0.034 (0.037)
Year 2004	-0.030 (0.044)	-0.030 (0.043)	-0.031 (0.043)	-0.024 (0.039)
Hispanic/Latino	0.066 (0.092)	0.071 (0.090)	0.071 (0.090)	0.119 (0.080)
American Indian/Alaska Native	-0.193+ (0.103)	-0.272** (0.100)	-0.273** (0.101)	-0.179* (0.091)
Asian	-0.067 (0.106)	-0.085 (0.103)	-0.086 (0.103)	0.050 (0.093)
Black	-0.021 (0.127)	-0.105 (0.124)	-0.107 (0.124)	0.005 (0.112)
Native Hawaiian/Other Pacific Islander	0.100 (0.138)	0.093 (0.134)	0.092 (0.134)	0.112 (0.121)
Multiple races	0.240 (0.196)	0.180 (0.190)	0.179 (0.190)	0.256 (0.171)
Race not reported	-0.051 (0.074)	-0.026 (0.072)	-0.026 (0.072)	0.065 (0.065)
Tenure				0.049** (0.008)
Tenure squared/100				-0.181** (0.041)
Professional, managerial occupation				0.493** (0.054)
Health occupation				0.277** (0.065)
Services occupation				-0.128** (0.040)
Sales and administrative occupation				0.031 (0.046)
Government employment				-0.071 (0.061)
Union contract				0.088* (0.043)
Outdoor work highly probable				0.130+ (0.067)
Paid hourly rate				-0.118** (0.034)
Full-time				0.061 (0.044)
Self-employed				-0.008 (0.071)
Constant	1.781** (0.271)	1.516** (0.265)	1.520** (0.267)	1.719** (0.245)
Adjusted R-squared	0.21	0.26	0.26	0.41

a. Standard errors in parentheses. + significant at 10%; * significant at 5%; ** significant at 1%. Number of observations = 1,023. All values weighted by NIS sample weight. Indicator variables for missing values for height, BMI, age, and education are included in the equations, but these coefficients are not reported. Indicator variables for country of birth are included in all equations, but these coefficients are not reported.

Figure 1: Distribution of Skin Color By Immigrant Status



Note: All values weighted by sample weight. Source: Author's calculations using the New Immigrant Survey 2003, sample of spouses. Number of observations: Immigrants = 2,384; Native U.S. = 387.