Color in the Tropics:

Race and Economic Outcomes in the Island of Puerto Rico

By

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May 2004
(Revised, March 2005)

The author is grateful to the research assistance of Alejandro Falchettore and to the comments of participants at the conference, "Puerto Ricans on the Island and in the Mainland United States: New Directions in Social Science Research, held at the Russell Sage Foundation in New York on May 21-22, 2004, the conference on "Race and Gender in the Caribbean," sponsored by the Center for Advanced Caribbean Studies, San Juan, Puerto Rico, March 31, 2005, and at a seminar at the University of North Carolina at Chapel Hill.

1. Introduction

The impact of race on economic outcomes is a topic that has received enormous attention among labor economists over the years. In the United States, hundreds of studies have examined the divergent economic opportunities on the basis of race and the mechanisms through which race affects earnings, employment, etc. [see the surveys by Cain (1986) and Altonji and Blank (1999)]. Similarly, there is a growing body of work on the connections between race and economic outcomes in Latin America, including research on Mexico, Bolivia, Brazil, and many others [Psacharopoulos and Patrinos (1994), Lovell and Wood (1998), Lam (1999), Patrinos (2000), Florez and Medina (2001), and Oakley (2002)].

By contrast, there has been very little analysis of how race and racial discrimination affect income and labor market performance in the Caribbean. There is, of course, widespread recognition that issues connected to race form a fundamental part of the societal foundation of the Caribbean Islands, where Afro-Caribbean populations permeate the social landscape. But the role played by race and racism in determining economic opportunities has not been a matter of systematic research.

In the Island of Puerto Rico, the topic of race and its impact on socioeconomic outcomes has made only brief appearances on social science research over the years. Partly, this has reflected the absence of any major social science research database that allows identification on the basis of race in Puerto Rico. For instance, the questionnaire used by the U.S. Census of Population, which has historically included racial categories, was modified for Puerto Rico after 1950 to exclude any questions on race or skin color.

Only in the year 2000 was the race question re-introduced into the Census questionnaire in Puerto Rico.

Both the absence of systematic research on race and the lack of databases disaggregated on the basis of race or skin color respond to a conventional wisdom that questions the significance of race as a socioeconomic issue in Puerto Rico. This conventional wisdom is very much alive in public opinion today. For instance, in a recent ethnographic study of a sample of persons in Puerto Rico selected to examine their opinions and perceptions regarding the race question in the 2000 Census, one of the participants replied:

> "I continue to ask myself why the Census wants to know the number of White and Black people in Puerto Rico. Here we do not need to know whether we are White or Black or tan or Indian in order to receive help. We are all children of God. When we are looking for work we know there are rules that prohibit rejecting a person because of his race."

This perception has traditionally been held by many social scientists. For instance, in their classic work on Puerto Rican social stratification, sociologists Tumin and Feldman dedicated some of their research into discussing the issue of race. They concluded: "The evidence urges upon us the conclusion that skin color is considerably less important in Puerto Rico than in the United States; that it is of virtually no significance whatsoever in many important areas of life; that the majority feel that people of darker color are not blocked from any serious question…by any objective measure, there is only a small and relatively insignificant relationship between skin color and education, income,

occupation, or any other indices of social and economic position" [Tumin and Feldman (1961, 239,245).

This conventional wisdom has been challenged over the years. Statistical evidence of racism or racial discrimination does not exist in the literature, but observations regarding the presence of discrimination on the basis of race abound. Going back to 1945, anthropologist Eric Williams made the following comments regarding Puerto Rico:

> "Discrimination is common in all the better hotels and restaurants…Clubs in Puerto Rico are customarily classified as "first class" and "second class." Whites belong to both types of club, but Negroes belong only to "second class" ones…Social discrimination has increased in Puerto Rico to such an extent that the legislature passed a Civil Rights Act in 1943 guaranteeing the right of all persons irrespective of race, creed or political affiliation to enjoy the facilities afforded by public places, businesses or any agency of the Insular Government." [Williams (1972, p. 45)]

More recently, an article on El Nuevo Día (April 2001) reports the comments of Juan Figueroa, who was the Director of the Puerto Rican Legal Defense and Education Fund at the time, on the topic of race in Puerto Rico:

> "Although Figueroa said that racism in Puerto Rico may not have the same dimensions it has in the United States, he asked how many black persons have served in the Governor's Cabinet in Puerto Rico, how many appear on local television, and how many are models, "and you are aware of the problem," he indicated."

This paper begins to bridge the gap in the literature by examining the impact of race in the Island of Puerto Rico. The Censuses of Population carried out in

Puerto Rico under both the Spanish and American colonial periods historically included race questions, but after 1950 the U.S. Census of Population discontinued asking questions on racial identification in its decennial survey of Puerto Rico. Then, in the 1990s, at the request of the government of Puerto Rico, the Census Bureau was asked to make the Census questionnaires for Puerto Rico identical to those for the United States mainland. As a result, for the first time in fifty years, the 2000 Census of Population included questions asking residents of Puerto Rico to self-identify in racial terms. This paper takes opportunity of the availability of these data to examine the connections between race and socioeconomic outcomes in Puerto Rico.

Section 2 of the paper discusses the topic of racial identity in Puerto Rico, focusing on the question of whether Puerto Ricans do have strong perceptions about color and race, or whether --as the conventional wisdom establishes—race and skin color are not a major aspect of Puerto Rican society. In Section 3, comparative data on the connections between race and economic outcomes in Puerto Rico and in the U.S. mainland are presented, analyzing whether the popular perception that race does not matter in Puerto Rico holds-up to the results of the 2000 Census. Section 4 goes on to provide a multivariate empirical framework to examine the racial gap in pay in Puerto Rico and its possible determinants. Section 5 presents the results of the empirical work, specifying the role played by individual characteristics –such as education-- on racial pay differentials. Section 6 then specifically answers the question as to whether the data are consistent or not with the presence of labor market discrimination on the basis of race. Section 7 summarizes our main conclusions.

II. Racial Identity in Puerto Rico

After Christopher Columbus first set eyes on Puerto Rico during his second voyage to the Americas in 1493, the racial formation of Puerto Rico emerged from the interplay of three groups: (1) the indigenous population of Taino/Arawak people, which is estimated to have been at between 60,000 and 100,000 at the time of the initial Spanish colonization; (2) the Spanish colonizers and immigrants, and (3) the African workers brought-in initially as slaves, and their descendants.

The indigenous populations were actively used as slaves in the economic activities of the Spanish colony in the sixteenth century, particularly in the extraction of gold from rivers and later the production of sugar cane. Most of this population, however, vanished quickly in the fifteenth and early sixteenth centuries because of disease, conflict with the Spaniards, and the hardships of enslavement. Only in the central, mountainous part of the Island did any significant indigenous populations survive for a longer period of time, gradually inter-mixing with the rest of the population. Hence, in the case of Puerto Rico, as opposed to other countries in Central and South America, the indigenous population did not remain for long as a significant racial or ethnic group.

The Spanish colony had to deal with a slow –and sometimes declining— population growth in the first centuries after its creation. In 1534, the colony's governor complained about an exodus of Spaniards from the Island to other parts of the Spanish territory, stating that the Island is "so unpopulated that you can hardly see any Spaniards, but mostly Blacks." In 1530, a Census ordered by the Governor found the number of slaves was five times that of the White population.

The racial composition of Puerto Rico remained heavily composed of African slaves and their descendants until the nineteenth century. As author Jose Luis Gonzalez has observed: “During the first century of Puerto Rico’s colonial life [under Spain], and surely a large part of the second century, the working class, both rural and urban, was concentrated in the coastal areas of the Island and was mostly black and “mulatto,” with slaves exceeding the free blacks” [Gonzalez (1980, p. 37)].

The racial composition of the Puerto Rican population shifted drastically in the nineteenth century. Firstly, in 1815, King Fernando VII of Spain signed the Real Cédula de Gracias, which allowed uncontrolled immigration to Puerto Rico, so long as the persons originated in Catholic, friendly nations. The Cédula allowed white immigrants to take ownership of lands that were not used or had no legal ownership. The result was a sustained flow of European immigrants [Scarano (1993)].

The growth of the African population in the Island also diminished sharply in the nineteenth century. The slave trade from Africa was abolished in 1817, a result of a Treaty between Spain and Great Britain. And although trade in slaves in Puerto Rico did continue through the purchase of slaves from other islands, this ended as well a few years later. Slavery itself began to end in Puerto Rico in 1870, as a result of the Ley Moret, through which slaves older than 60 and the children of slaves were liberated. Slavery was then fully abolished in 1873, though freed slaves were still required to remain with their owners for at least three years [Díaz Soler (1957)].

Table 1 displays the decomposition of the population of Puerto Rico by race, from 1860 to 1950, as determined from Spanish and American Censuses. As just noted, the increased European immigration, the elimination of the slave trade, and the higher

mortality rates of slaves and their descendants, all led to a major change in the racial composition of Puerto Rico in the nineteenth century, sharply increasing the proportion of the population catalogued as White. Indeed, Table 1 shows that the proportion of the population catalogued as White (which includes persons considered Black as well as "Colored" or "personas de color" in Spanish) dropped from 48.5 percent in 1860 to 34.5 percent in 1910.

[Table 1 about here]

Table 1 also shows data indicating that the proportion of the White population in the Island continued to increase in the twentieth century as well. By 1950, the proportion of the population catalogued as White had increased to 79.7 percent. The 2000 Census found the White population to be equal to 80.5 percent.

The rise in the White population of the Island in the twentieth century is puzzling. White European migration slowed-down drastically precisely at the beginning of the twentieth century and has remained relatively low since then. At the same time, by all accounts, the inter-mixing of the Black and White populations within the Island increased sharply. Despite these trends, the data indicates that, as a proportion of the population, persons catalogued as White rose sharply. What explains this trend?

It should first be emphasized that the high proportion of Whites in the population does not appear to be a result of the specific ways used by the Census to count the population on the basis of race. It is true that the U.S. Census has used various definitions and ways to measure race over the years, but all of them have resulted in the same trend. In 1950, for example, the Census used enumerators who would fill-out the questionnaire's item regarding the race of the individual, checking the alternatives --

White, Black or Other-- on the basis of their own, personal observations. In Puerto Rico, Census enumerators were largely Puerto Rican and, therefore, their racial perceptions (based in turn on societal perceptions) would have been a key determinant of racial composition in 1950 (this holds as well for earlier decades). On the other hand, by the year 2000, the Census catalogued the race of a person on the basis of his or her own perceptions, allowing people to self-identify on the basis of race, as White, Black or Other/Multi-racial).

But as Table 1 indicates, the change in the methodology of race identification did not change the proportion of the population catalogued as White in 1950 and 2000, which remained close to 80 percent for both years. It is unlikely, therefore, that issues connected to the method of enumeration or other measurement errors explain the rising "whiteness" of the Puerto Rican population.

A second issue raised by some experts is that the Census question regarding race is not adapted to Puerto Rico because Puerto Ricans, it is argued, do not identify themselves as White or Black but instead, due to their racial mix, they prefer a third category, such as "trigeño" (literally meaning someone with a wheat-like color), which is absent from the Census. Although this is certainly an issue that deserves further attention, the fact is that the Census does allow individuals to respond "other race," as an alternative to Black and White in the race question. The 2000 Census also allowed respondents to identify themselves as multi-racial. But only 11.5 percent of the population in Puerto Rico declared itself to be multi-racial or of "other race" in the 2000 Census, compared to 8 percent Black and 80.5 percent as White. This suggests that the

categories of White and Black still remain as critical categories in the racial identification of people in the Island.

What explains, then, the rising proportion of the population classified as White in a society that has become increasingly mixed racially, as virtually all experts and popular perception in Puerto Rico agree with? There is an extensive anthropological and sociological literature explaining the dynamics of race identification in societies where various skin shades proliferate [see Winthrop (1990), Andrews (1991), Wade (1993), and the collection in Whitten and Torres (1998)]. In many of these countries, social scientists have encountered the phenomenon of "bleaching" or "whitening" of the population [see, for example, Applebaum (1999), and Euraque (2003)]. There are varied social, cultural, economic and political forces connected to this process, but the fact is that, in situations where the legacy of slavery and the presence of bigotry and discrimination have subjected persons labeled as Black to severe social and economic isolation or distress, the historical tendency has been for a substantial portion of the racially-mixed population to switch identification from Black to White. As a result, only a small portion of the population, with very dark skin color, continues to be considered as Black over time.

The phenomenon of "whitening" has been noted among a number of scholars in Puerto Rico. As Duany (2002, p. 242) observes: "[a] common practice on the Island is a strong desire to whiten yourself, a tendency also known as "bleaching (blanqueamiento)." The history of slavery in Puerto Rico --associated with severe social and economic marginalization of the Black African population and its descendants-- provided strong incentives for lighter-skinned persons not to identify as Black. The incentive instead was to identify as white, where social and economic privilege traditionally lies. The high

inter-marriage rates and widespread racial mixing among the local (criollo) population, combined with the disappearance of the White European immigrant populations, then led to a demographic boom in light-skinned Puerto Ricans, many of whom had the wealth and the desire to be included as part of the social and intellectual elites of the Island. This tendency continues to the present. As Duany (2002, p. 258) observes: "The "bleaching" of the Island's population is partly due to the propensity to incorporate light mulattoes (trigueños) into the white category." The historical outcome was the absorption of light-skinned Puerto Ricans into the White category.

But there are varied social, economic and cultural forces that are connected to the rising proportion of the racially-mixed population in Puerto Rico identifying as White. There is no question that over the years an underlying, sometimes overt, sometimes subterranean, current of racism and prejudice has continued to exist in the Island, making Blackness a negative and Whiteness a positive in many social and cultural settings. For example, Duany (2002, p. 242) notes that bleaching is often connected to "the common belief [among the population] in "improving one's race" through intermarriage with light-skinned persons."

There are numerous other social and cultural signals –documented in the press and in academic circles as well-- that indicate both outright prejudiced perceptions as well as more subtle, but no less real, fears of Blackness [see Zenón (1975), (Rodríguez-Marazzani (1998), Merino-Falú (2004), and Rodríguez-Cotto (2004)]. Román (2002) describes well the situation of several prominent Black Puerto Ricans: "Luis Raul Torres Cruz remembers the anger years ago, when his girlfriend's parents rejected him because he was black. Now a lawmaker in Puerto Rico, the anger over what he sees around him

isn't quite so personal, but it comes from the same unfortunate root. He sees white people working in banks and department stores while in fast-food restaurants, black people tend to be the ones taking his order. With few exceptions, black people are nowhere to be found in the big law firms, the boards of directors in public and private corporations, government leaders or on the bench…Labor and Human Resources Secretary Victor Rivera Hernandez, who is black, says he was discriminated against in the past and insists there is racism in government, private companies and the media. Complaints about racial discrimination on the job have tripled since he took over the agency a year ago."

The varied forces associated with racial identity and anti-Black sentiments are illustrated as well by the Dominican Republic, where politics and nationalism, in addition to demographics and class, have played a key role in racial formation [Sagás (2000)]. As in Puerto Rico, the growth of racial mixing in the Dominican Republic resulted historically in the emergence of a large, "mulatto" population that eventually became a significant political force. This propelled the integration of the wealthiest racially-mixed families into the dominant "White" political and social circles. The same process led to the segregation and social exclusion of dark-skinned Dominicans. Furthermore, anti-Blackness was aided by the long-standing national conflict with Haiti, a country demographically dominated by a dark-skinned population. The intertwining political and racial trends in the Dominican Republic took-on horrifying dimensions under the reign of Dictator Rafael Trujillo. In the Trujillo era, "whitening" of the country became unofficial policy of the state, leading to the 1937 massacre of tens of thousands of Haitian migrants residing in the country and their Dominican descendants and relatives. Although diminished after the end of the Trujillo era in the early 1960s, Torres-Saillant (1998, p.

140) notes that: “the fact remains that Negrophobia has endured in the country and can still manifest itself in ways that interferes with the well-being of dark-skinned people.”

Within the U.S., racial formation has taken a quite different route. Racial perceptions in this country regarding racial mixing have historically been dominated by the so-called hypodescent approach or “one-drop rule,” by means of which racially-mixed persons, with lighter skin color, have been categorized as being Black [Winant (1994)]. As Perlmann and Waters (2002, p. 4) observe: “Over the long course of slavery [in the United States]…mixed-race people came to be defined as black in law and custom, according to the “one-drop” rule, by which membership in the white race was limited to those without any black ancestors.” In this context, where the White majority has imposed a very exclusive societal perception of whiteness, persons with Black African ancestry –of all skin shades—tend to identify as Black. This is almost the opposite of the situation in Puerto Rico and other Caribbean countries, where widespread racial mixing has led to a more inclusive vision of White, in which most persons with Black African ancestry –except those with very dark skin color— are considered (and consider themselves) to be White.

Still, even within the case of the U.S., the rising racial mixing of the population, as well as the presence of a substantial Latino population, may be leading to a situation where the racially-mixed may no longer identify as Black [see Hochschild and Weaver (2003) and Hochschild, Burch and Weaver (2003)]. As Makalani (2003) observes of the growing mixed-race population in the United States: “people of color can also use whiteness to negotiate the racial hierarchy…The main concern is how they seek to use that property to distinguish themselves from African Americans, position themselves

above Blacks in the racial hierarchy, and receive some of the privileges of whiteness." As the late African American singer and composer, Curtis Mayfield, bitterly put it: "If you had a choice of colors, which one would you choose, my brother?"

Table 2 presents a more detailed decomposition of the 2000 Census-based race responses for Puerto Rico overall, and for various groups within Puerto Rico and outside the Island. The 2000 Census included the question: "What is your race?," with the following categories as possible answers: "White," "Black/Negro/African Am.", "American Indian," "Asian," or "Some Other Race" (where persons could write-in which "other race" they belonged to). Note that in the 2000 Census more than one race could be selected, so that multi-racial responses were possible. On the basis of these categories, persons who responded "White" or "Black" as single responses were classified as separate groups, and any other responses (including the multiple race responses) were catalogued as part of the "Other Race" category.

As Table 2 shows, a total of 80.5 percent of the population answered only "White," to the race question, 11.1 percent answered only "Black," as their response, and 8.4 percent gave "Other" answers, including multiple races (both Black and White). Note that there is no significant difference in the responses of men and women. However, the proportion of persons who identify themselves as Black or "Other Race" is much higher among Dominicans residing in Puerto Rico than among Puerto Ricans. Among Dominicans, 37.8 percent identify as Black and 26.0 identify as "Other Race," while only 36.2 percent define themselves as White.

[Table 2 about here]

The proportion of Puerto Ricans who classify themselves as White is much lower among Puerto Ricans residing on the mainland, when compared to those living in the Island. Among Puerto Ricans residing on the mainland U.S., 36.2 percent declared themselves as White, as compared to 81.3 percent among Puerto Ricans in the Island. On the other hand, the proportion identifying as Black was slightly lower among Puerto Ricans on the mainland, equal to 8.3 percent, compared to 10.7 percent for those living in Puerto Rico. The avoidance of Blackness is thus shared among both groups. It is the "Other Race" category that makes the big difference in terms of the racial classification of Puerto Ricans on the mainland and in the Island: on the mainland, 45.6 percent of Puerto Ricans identify as "Other Race" while only 9.1 percent classify in this category in the Island.

What explains the high proportion of Puerto Ricans residing on the U.S. mainland declaring their race as "Other" instead of White, as most Puerto Ricans in the Island do? It is tempting to conclude that the explanation lies in the recognition among Puerto Ricans located on the mainland of their mixed racial heritage. And this is certainly part of the explanation. Confronted with a society where only very light-skinned persons are considered White, and where historically Blackness has had strong negative social and economic connotations, the reaction of Puerto Ricans is sometimes to reaffirm their mixed or multiple race ancestry.

On the other hand, the available evidence suggests that a large fraction of Puerto Ricans on the mainland answer the "Other Race" question because they are confounded by the race question within the context of the United States. For instance, the first reaction of many Puerto Ricans living in the U.S. to the Census race question is to

assume that “White” refers to European Americans and “Black” refers to African Americans, so that both categories do not effectively apply to them. As a result, many of them put “Other,” as their response to the race question, often writing-in Puerto Rican, Hispanic or Latino as their answer. As Clara Rodriguez has concluded, Puerto Ricans – and Hispanics in general—often confound race with national origin when they reside in the United States [Rodriguez (2000, p. 124); see also Rodriguez (1991)]. In her research, Rodriguez asked a sample of Hispanics in the U.S. to answer the 1980 Census race question and then asked them why they replied the way they did. She found that among those who chose “other race” as their response, only 11.5 percent said they did because of their biological race or skin color. Rather, they said it was their culture or nationality [Rodriguez (2000), p.132)]. Landale and Oroposa (2002) also find similar responses among Puerto Rican women in the U.S. mainland. And Suzanne Oboler confirms this pattern in her study of race and ethnicity among Hispanics in New York City. She gives the following example of the response of a Puerto Rican who grew up in New York about race: “he defined Hispanics as including “whatever race you want to put in it south of the border,” while singling out Whites as “Americans” ”. [Oboler (1995), p. 156].

[Figure 1 about here]

Returning to the discussion of the Island of Puerto Rico, Figure 1 shows the geographical distribution of the population by race, where we have grouped together the Black and “Other Race” populations into a Non-White category. The areas of greatest concentration lie in the northeastern and southeaster coastal areas of the Island. These were areas of sugar cane cultivation, where the employment of African workers concentrated through the centuries of Spanish control of the Island.

[Table 3 about here]

As Table 3 shows, the municipio (county) with the highest concentration of Non-Whites is Loíza, where close to 70 percent of the population declared their race as other than White, including a 61.4 percent identified as Black. This is followed by Arroyo, Canóvanas, Río Grande, etc. These municipios represent the core of an area of much greater proportion that was identified as being of "Color" ("personas de color" of Non-White) in past Censuses, but has gradually diminished as the population has shifted towards declaring their race as White. Figure 2 shows the geographical distribution of the "Colored" population, as determined by the 1940 Census.

[Figure 2 about here]

This section has shown that racial identity has been and remains a significant factor in personal and social identity in the Island. But what economic impact does race have in Puerto Rico? Can we observe –as in many other societies—that non-Whites are subject to prejudice and discrimination, resulting in lower socioeconomic status? Or, as some experts and much of the public perceives—is race a non-issue in determining social and economic outcomes in Puerto Rico? The following sections explore this issue.

III. Race and Economic Outcomes

Despite the widespread documentation of instances of racism and of the expression of racist attitudes in the Island (noted earlier), there is no systematic study available of the effects of race on economic outcomes. Social science research on this topic has been difficult to carry out due to the absence of any substantial databases with information on

the race or color of respondents in Puerto Rico. Since its inception in 1952, the Commonwealth government officially adopted a policy of not inquiring about race or skin color, on the assumption that any decision-making on its part needed to be color-blind. The U.S. Census did include a race question in its questionnaire used in Puerto Rico, but after 1950 it eliminated the question, acting on the popular perception that race does not matter in the Island. Only in 2000 was the race question re-entered as part of the U.S. Census in Puerto Rico. This paper uses the 2000 Census responses of persons residing in Puerto Rico to determine the role played by race on economic outcomes in Puerto Rico.

To measure differences in the average well-being or standard of living of the typical person belonging to various groups in a population, economists use the concept of household income per-capita, which is equal to the total income received by a household divided by the number of persons residing in that household. Table 4 presents the annual (1999) household income per-capita in Puerto Rico, disaggregated on the basis of the three racial categories stated earlier: White, Black and Other. As can be seen, the Black population had an average per-capita household income of $6,495 in 1999 while the White population had $8,448, and the "Other" group had $6,901.

[Table 4 about here]

There is a substantial shortfall of the average income per-capita of the Black population relative to Whites in Puerto Rico. In 1999, Black persons had on average 76.9 percent of the income per-capita of the White Population. The income shortfall of persons in the "Other" category relative to the White population was only slightly lower than the Black-White gap.

Table 5 presents poverty rates for 1999. The Bureau of the Census establishes poverty status by comparing the income of the family where the person lives with an income threshold measuring the amount of financial resources that a family needs in order to purchase a basic, minimum food budget in the U.S. [see Rivera-Batiz (2004) for a detailed discussion of poverty definitions]. This threshold then varies with the number of persons in the family, the number of children, and age of family members. For instance, the average income threshold for a family consisting of two adults with one child was $13,410 for 2000, but for a family of two adults and three children, the threshold was $19,882. Note that these thresholds are not adjusted for state or regional differences in cost of living.

[Table 5 about here]

The poverty rate for the White population in Puerto Rico was 47.5 percent in 1999. For the average Black person, the poverty rate was 54.0 percent, significantly higher than for Whites. Among those who had "Other" as a race, the poverty rate was 53.3 percent, approximately equal to that of the Black population.

The racial income and poverty differences presented in Tables 4 and 5 contradict the popular notion that race does not matter in Puerto Rico. On the other hand, the racial income gap is smaller in Puerto Rico than in the mainland United States. In the latter, as Table 4 displays, the average household income per person of Blacks or African Americans in 1999 was 65.9 percent of that prevailing among Whites. This is more than 10 percentage points greater than the racial gap in Puerto Rico. Similarly, as Table 5 depicts, the poverty rate among Blacks in the U.S. was 22.1 percent in 1999, compared to

9.4 percent among Whites. The Black-White poverty gap in Puerto Rico thus pales in comparison with that in the United States mainland.

What factors account for the lower income per-capita and higher poverty rates of Black Puerto Ricans compared to the White population? Labor market outcomes have been closely connected to racial income differentials in a wide array of countries [see, for instance, Hasenbalg (1985), Darity and Mason (1998), Lovell and Wood (1998), and Florez and Medina (2001)]. Is this the case in Puerto Rico?

Labor force participation is defined as the percentage of the population 16 years of age or older who is either employed or unemployed (which includes people without work at the time but actively looking for work). The lower the labor force participation rate of a group is, the smaller the fraction of that population that is economically active and, therefore, the more likely that it will have lower income, holding other things constant.

Table 6 presents the average labor force participation rates in April 2000 for the various racial groups in Puerto Rico. As can be seen, differences in labor force participation do not appear to account for the shortfall of the income per-capita of Blacks relative to Whites. On the contrary, the average labor force participation for Blacks in Puerto Rico in 2000 was 42.8 percent, which exceeds the labor force participation of Whites, equal to 40.5 percent in 2000. Similarly, the labor force participation rate of those catalogued as “Other race” was equal to 46.7 percent, which sharply exceeds the White labor force participation rate.

[Table 6 about here]

The higher the unemployment rate of a group is, the lower the standard of living, holding other things constant. Do higher unemployment rates explain the lower income per-capita of Black Puerto Ricans relative to Whites? Table 7 shows unemployment rates disaggregated by race. Black Puerto Ricans had an average unemployment rate of 16 percent in April 2000, compared to 14.3 percent for the White population. Although this slightly higher Black unemployment rate may account for some of the Black-White income gap, the difference is not significant enough to be a major factor.

[Table 7 about here]

We now turn our focus to the employed labor force, showing the earnings gap of workers, decomposed by race. Table 8 shows the average weekly earnings received by male and female workers in 1999, decomposed by race. Among men, the average weekly earnings of Black workers were substantially lower than for Whites. In 1999, the average wages of Black men were 72.4 percent of those of White men. For women, the wages of Black workers were equal to 76.6 percent of those among Whites.

The racial earnings gaps in Puerto Rico are substantial. For comparison purposes, Table 8 shows that, among all men in the mainland United States employed in 1999, the earnings of Black workers were 69.2 percent of those received by Whites. This represents a wage shortfall of the same magnitude as that in Puerto Rico. But among women, the gap in the wages of Black workers compared to Whites is much higher in Puerto Rico than in the mainland United States. As Table 8 displays, the earnings of Black female workers in the mainland United States in 1999 were 92.9 percent of those among Whites [see Bayard et.al. (1999) for an analysis of this gap]. But, as noted earlier, in Puerto Rico

the weekly earnings of Black females were equal to 76.6 percent of White earnings, constituting a sharply higher racial gap.

[Table 8 about here]

It can be concluded from the data presented in this section that one of the key economic forces accounting for the lower income per-capita and higher poverty rate of Blacks relative to Whites in Puerto Rico is the substantial earnings gap. But is this evidence of labor market discrimination? The next section examines the issue.

IV. The Determinants of Labor Market Earnings

Differences in earnings between Black and White workers are not automatically evidence of labor market discrimination. Instead, they may be related to differences in the characteristics of the two types of workers. A shortfall in the earnings of Black workers could thus be explained by lower educational attainment or by gaps in other productive characteristics. Although these differences may be connected to discrimination, in the form of segregation and racial bias, they do not represent instances of *labor market* discrimination. Labor market discrimination is said to occur when "individual workers who have identical productive characteristics are treated differently because of the demographic groups to which they belong" [Ehrenberg and Smith (2000), p. 402].

In order to examine the extent to which racial earnings differentials are consistent or not with the presence of labor market discrimination, one must specify first how individual productive characteristics –such as education and age—influence earnings. In the literature, human capital earnings functions are estimated precisely to carry out this

task. Since the experiences of men and women in the labor market diverge considerably, the analysis is usually carried out separately on the basis of gender.

Following the abundant literature in this area [see, for example, Cain (1986), Rivera-Batiz (1990, 1991, 1999), Psacharopoulos and Patrinos (1994), Reimers (1981, 1998), Trejo (1997), and Altonji and Blank (1999)] , we estimate the following empirical earnings function, which postulates that the natural logarithm of the wage rate of a person i of sex j is given by:

$$\log W_{ij} = ß'X_{ij} + U_{ij} \qquad (1)$$

where W_{ij} is the hourly wage rate received by an individual, ß is a vector of coefficients to be estimated, X_{ij} is a vector of human capital, occupational and demographic characteristics affecting wages, and U_{ij} is a stochastic error term with zero mean and constant variance. We use the 2000 U.S. Census data for Puerto Rico to estimate the empirical earnings functions described in equation (1) separately for the samples of Black and White workers.

The variables in the vector X_{ij} include, first of all, five schooling dummy variables introduced to reflect the impact of skills learned in school on earnings. These are: LESSHS, equal to one if the person completed one or more years of high school but had not received a high school diploma, and zero otherwise; HIGHSC, equal to one if the person had received a high school diploma, and zero otherwise; SOMECOLL, equal to one if the respondent had completed one or more years of college but had not received a college degree, and zero otherwise; COLLEGE, equal to one if the person had received a

Bachelor's degree, and zero otherwise; and MORECOLL, equal to one if the individual had completed degrees above the college level, including master's, doctorate and professional degrees, and zero otherwise . All of these variables are expected to have positive coefficients in the earnings equation.

Secondly, we include years of labor market experience, represented by the variable EXPER (measured as age minus years of schooling completed minus six). This variable intends to reflect the earnings impact of the information and skills acquired by the person through aging in the labor market. The variable EXPERSQ, equal to the square of years of labor market experience, is introduced in the equation to reflect diminishing returns to experience. Assuming that there are positive, but diminishing, returns to labor market experience, it is anticipated that the variable EXPER would have a positive coefficient and EXPERSQ a negative coefficient in the earnings equation.

In examining labor market performance, family considerations can have important effects. A greater level of labor market effort --and higher earnings—generally tend to be associated with marriage, especially if the family has children. A dummy variable, MARRIED, is included in the analysis to reflect possible differences in earnings between single and married persons. The variable is equal to one if the person is married and zero otherwise.

Labor market performance may be affected by the place of birth of the worker. A huge literature has developed over the years examining the labor market experience of immigrants in the United States [see for instance Chiswick (1978), Bloom and Grenier (1993), Smith and Edmonston (1997), and Rivera-Batiz (1999, 2001)]. This literature generally finds that, holding other things constant, immigrant status tends to be positively

associated with earnings [Orcutt-Duleep and Regets (1999)]. The idea is that since the migratory process involves significant effort and a strong desire to succeed in the destination region, migrants tend to be persons who are positively-selected from the source country population and thus tend to do relatively well in the labor market in their host countries.

The proportion of the population in Puerto Rico born outside the Island was 9.1 percent in 2000. A significant portion of this population consists of persons who were born in the United States mainland. In 2000, 220,783 persons residing in Puerto Rico had been born in one of the 50 states of the American union. Compared to other migrants to Puerto Rico, such as those born outside the U.S., these workers may be expected to have higher earnings (holding everything else constant) since they may have a greater familiarity with American labor market institutions, some of which operate in Puerto Rico as well. Their English language proficiency may also help in obtaining higher-paying jobs in the Island. To include this influence on earnings, we add a dummy variable, USBORN, which is equal to one if the person was born outside Puerto Rico but within the United States, and equal to zero otherwise.

The 2000 Census counted 108,582 foreign-born persons in Puerto Rico, which includes those who were born outside any state or territory of the United States. More than half of these were born in the Dominican Republic. As noted earlier, Dominican workers –as any immigrant population—may be expected to have higher relative earnings, holding other things equal. However, cases of social exclusion and bias against Dominicans in Puerto Rico abound in the press and in the academic literature [see, for example, Duany et.al. (1995), and Duany (2003)]. One could therefore expect Dominican

status to be associated with lower wages, holding other things constant. On the other hand, a much greater proportion of Dominicans in Puerto Rico declare their race to be Black, and instances of discrimination against Dominicans may be associated with racial bias. To separate the influence of Dominican status on earnings, we include a dummy variable DOMINICAN, equal to one if the person responded that he/she was Dominican or if he/she was born in the Dominican Republic, and equal to zero otherwise. We are not certain about the sign of this variable in the earnings equation, but if it is negative it would be consistent with the presence of labor market discrimination against Dominicans in the Island, independently of their race.

The longer immigrants have stayed in a country, the higher their earnings. There are two explanations for this connection. Firstly, as postulated by Chiswick (1978), the greater knowledge of local labor market institutions gained over time by immigrants in their host countries provides improved job search efficiency, allowing immigrants to find higher-paying job offers. Alternatively, Borjas (1985) has suggested that more recent immigrant cohorts in the U.S. have lower "quality" than previous ones, thus also receiving lower wages, holding everything else constant. Therefore, the longer an immigrant has been in the U.S., the older the immigrant cohort with which he or she is associated, and the lower the earnings. To take this into account, we include a dummy variable RECENT, which is equal to one if a person migrated to Puerto Rico within the five years before the 2000 Census (in the years 1995 to 2000), and zero otherwise. One would expect the coefficient of this variable to be negative.

In Puerto Rico, the state sector is a major employer, compared to the situation in the United States mainland. According to the U.S. Census, 27 percent of all employed

workers in the Island were in the state sector (including state government, public universities, public corporations, etc.). Does employment in the public sector provide lower or higher wages than the private sector, holding other things constant? To answer this question, we include a dummy variable STATEW, which is equal to one if a person is employed in the public sector and zero otherwise.

The discussion so far suggests that the wage equation to be estimated should be given by:

$$\begin{aligned}\log W_{ij} = {} & ß_0 + ß_1 LESSHS_{ij} + ß_2 HIGHSC_{ij} + ß_3 SOMECOLL_{ij} \\ & + ß_4 COLLEGE_{ij} + ß_5 MORECOLL_{ij} + ß_6 EXPER_{ij} + ß_7 EXPERSQ_{ij} \\ & + ß_8 MARRIED_{ij} + ß_9 USBORN_{ij} + ß_{10} DOMINICAN_{ij} \\ & + ß_{11} RECENTM_{ij} + ß_{12} STATEW_{ij} + U_{ij} \end{aligned} \quad (2)$$

where all the variables are as defined above.

V. The Earnings of Black and White Workers in Puerto Rico: Results

We have estimated the empirical model discussed in the last section using the sample of workers in the 2000 U.S. Census of Population for Puerto Rico. To simplify the discussion, we focus on Black-White wage differences, but an analysis of the earnings differences between White and the "Other Race" category is available from the author, by request. Persons with no responses on relevant questions (such as earnings, educational attainment, etc.) were eliminated from the analysis. In addition, following the custom in

the literature, the sample was circumscribed to persons 18 to 64 years of age, with positive weekly earnings.

Table 9 displays sample means for the variables introduced in the wage equations, by race and gender. Note that, for both men and women, the proportion of the population with a college degree or more is higher among the White population. For men, the percentage of Whites with a college degree or more is 24.6 percent, while for Blacks it is 16.3 percent. Among women, 41.8 percent of Whites had received a college degree or more, while for Blacks it was 31.1 percent. These substantial schooling differences may explain part of the earnings differences noted in the previous section, an issue we will explicitly examine later.

[Table 9 about here]

There are no significant differences in years of labor market experience between Blacks and Whites in Puerto Rico. There are, on the other hand, some racial differences in marriage rates. Among Whites, marriage rates are higher, particularly for women. Indeed, the marriage rate of White men in 2000 was 68.3 percent while it was 64.4 percent among Black men. For White women, the percentage married was 53.6 percent in 2000, compared to 47.2 percent among Black women. Since married individuals do tend to have higher earnings, the racial marriage rate differentials in Puerto Rico may also help explain the shortfall in the earnings of Black workers relative to Whites.

Another major difference between Black and White workers is that a higher proportion of White men was born in the United States mainland. At the same time, the proportion of Dominicans is substantially higher among the Black population, for both men and women. The Black population also has a greater proportion of recent migrants.

All of these factors, as discussed in the previous section, may explain the lower earnings of Black workers in Puerto Rico. There is in addition a higher faction of Black workers employed by the public sector, although the impact of the state sector on wages is not clear.

Tables 10 and 11 present the key results of our empirical analysis. Table 8 shows the coefficients of the estimated wage equations for men while Table 9 displays the results for women. Note that there are some significant differences in the magnitude of the estimated coefficients among the various equations.

First of all, both Tables 10 and 11 show that rates of return to education are substantially higher for White workers compared to Black workers. For instance, the college coefficient for White men was found to be 0.8899, which suggests that a college education raises earnings by close to 89 percent relative to the average earnings of workers who have completed at the most their junior high school. But for Black men, the estimated coefficient is 0.7109, indicating that a college degree raises the earnings of Black males by 71 percent, compared to the average wage of a Black man with at the most a junior high school diploma. For women, a college degree raises White earnings by 67 percent and Black earnings by 60 percent.

Although there are no major racial differences in the rates of return to labor market experience among men, the situation is different for women. Black women tend to have significantly lower rates of return to experience. In addition, the association of marriage with earnings is more strongly positive among Black women, when compared to White women. We also find that place of birth in the U.S.mainland is associated with higher wages, but for Black workers the impact is not statistically significant at

conventional levels of confidence. Interestingly, the Dominican dummy variable is not statistically significant in any of the equations. Our analysis supplies no evidence, therefore, that systematic labor market discrimination exists against Dominican workers as such. This still leaves open the possibility that Dominican workers are affected by racial discrimination. If there is evidence of such discrimination, it would affect Dominicans proportionately more than Puerto Ricans because of the greater proportion of Blacks in the Dominican population.

Finally, employment in the public sector appears to have a strongly positive effect on the earnings of Black workers, both male and female. For White workers, on the other hand, our results provide no evidence that public sector earnings diverge from their private counterparts.

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VI. Accounting for the Black-White Earnings Gap

We have established that there is a substantial premium in the earnings received by White workers when compared to Black workers in Puerto Rico. One possibility is that these wage differences reflect racial discrimination in the labor market. On the other hand, the wage differences may be due to the greater educational attainment of the White population, their higher marriage rates, etc. To determine whether the data is consistent with the presence of wage discrimination, it must be shown that there is a significant wage gap between Black and White workers even after holding constant the characteristics of the two groups. This is precisely what the so-called Blinder-Oaxaca wage decomposition seeks to establish [see Blinder (1973) and Oaxaca (1973)]. This

section uses the regression coefficients presented in Tables 10 and 11 to carry out a Blinder-Oaxaca decomposition for the wage gap between Black and White workers in Puerto Rico.

The Blinder-Oaxaca wage decomposition for Black-White wage differences is based on a comparison of the means of the log-wages for these two groups of workers. Using equation (1) yields the following equations for the means of the log-wages of White and Black workers of any given gender:

$$\overline{\log W_W} = \beta'_W \bar{X}_W \tag{3}$$

$$\overline{\log W_B} = \beta'_B \bar{X}_B \tag{4}$$

where the subscript W represents white workers, B denotes Black workers, and bars over variables denote mean values. Subtracting equation (4) from (3) results in:

$$\begin{aligned} \overline{\log W_W} - \overline{\log W_B} &= \beta'_W \bar{X}_W - \beta'_B \bar{X}_B \\ &= (\bar{X}_W - \bar{X}_B)(\beta'_W + \beta'_B)/2 \\ &\quad + (\beta'_W - \beta'_B)(\bar{X}_W + \bar{X}_B)/2 \end{aligned} \tag{5}$$

Equation (5) decomposes the log-wage difference between Whites and Blacks (equal to the percentage difference in the geometric means of the observed wage rates for the two groups) into two components: (1) a part due to differences in the average characteristics of Black and White workers, as represented by the vectors of human capital and demographic variables in X_W and X_B, shown in the second row of equation (5); and (2) a

part due to differences in the parameters of the wage equations for the two groups, as symbolized by ß'$_W$ and ß'$_B$, shown in the third row of equation (5).

The first component of the wage decomposition reflects the extent to which differences in wages between White and Black workers can be explained by mean differences between the two groups in educational attainment, experience, and other measured characteristics.

The second component of the wage decomposition reflects the extent to which wage differences between White and Black workers is explained by factors other than differences in the measured characteristics of workers in the two groups. It is this component that would reflect labor market discrimination against Black workers. However, it could also reflect the presence of differences in unmeasured characteristics of workers in the two groups. Still, if this second component constitutes a substantial proportion of the wage gap, it is unlikely that it could be due solely to unmeasured characteristics. Instead, it would strongly suggest the presence of racial discrimination in the labor market.

Table 12 presents the various components of the Blinder-Oaxaca decomposition for the wage gap between White and Black workers in Puerto Rico. Note first that the observed log-wage gap between White and Black workers is higher among women than among men. Secondly, the portion of the log-wage difference that is due to differences in measured characteristics leaves unexplained a large fraction of the log-wage differential. For males, 39.2 percent of the wage premium received by White workers relative to Black workers cannot be explained by differences in measured characteristics. For women, the unexplained part of the log-wage difference is 45.6 percent.

[Table 12 about here]

The productive characteristic that explains the largest fraction of the wage gap between White and Black workers is education. Overall, the five dummy variables in the earnings function explain 52.7 percent of the wage gap between White and Black men, and 54.4 percent of the earnings gap between White and Black women. Overall, however, the joint effect of differences between White and Black workers in these and other measured characteristics leaves a large portion of the wage gap unexplained.

The substantial unexplained gap in wages between Black and White workers suggests the presence of wage discrimination. On the other hand, one cannot discount the possibility that there are differences in characteristics that have not been measured and are not therefore be included in the analysis. Ultimately, then, the analysis presented in this section is only suggestive and cannot fully resolve the issue of the extent to which the residual wage premium of White over Black workers is due to labor market discrimination.

VII. Conclusions

This paper has examined the issue of racial identity and the economic consequences of race in Puerto Rico. Although the conventional wisdom among experts and the public is that (1) Puerto Ricans do not identify themselves among Black-White racial lines, and that (2) race does not matter much in economic terms in Puerto Rico, we find evidence inconsistent with both of these findings.

Our review of the literature on racial identity in Puerto Rico, combined with the results of the recently-released 2000 Census data, which for the first time in 50 years provides data on racial identification in Puerto Rico, suggest that Puerto Ricans do identify along racial lines. A historical analysis shows that the growingly multi-racial population of Puerto Rico has, at the same time, strongly increased its own identification as being White, with only dark-skinned Puerto Ricans catalogued as Black. The fact is that the history of social exclusion and economic penalties associated with slavery and its aftermath have led to a gradual process of whitening, where light-skinned Puerto Ricans label themselves as White rather than Black. This helps explain why close to 80 percent of the population of Puerto Rico declared itself as White, despite the acknowledged racial mixing of the population.

Our findings confirm that the average income per-capita of Blacks in Puerto Rico is substantially lower than that of the White population. There is as well a significant racial differential in poverty rates. However, our analysis also indicates that these gaps in standard of living are dramatically lower in Puerto Rico when compared to the mainland United States. In addition, and in contrast to the situation in the United States, there are no significant racial differences in employment rates between Black and White Puerto Ricans. Instead, the economic disparities appear to be associated with racial earnings differentials, particularly among women.

We find that Black-White earnings differentials are partly explained by lower educational attainment in the Black population relative to Whites: the latter have significantly higher college completion rates and post-graduate education. But a Blinder-Oaxaca decomposition of the Black-White earnings differential shows that a substantial

part of the differential remains after correcting for differences in the productive characteristics of the two groups. Among men, close to 40 percent of the racial earnings gap is unexplained by differences in measured characteristics. Among women, close to 50 percent of the earnings gap is unaccounted for by differences in productive characteristics.

Our analysis is thus consistent with the presence of wage discrimination in the labor market. But, at the same time, we acknowledge that there are a number of individual and group characteristics that could influence the Black-White wage gap and that we have not considered in our analysis. Differences in the quality of schooling, for example, have not been considered, a factor that could be essential in constraining the opportunities of Black Puerto Ricans. Another major limitation of our analysis is the fact that the Census data does not ask questions regarding skin color. There is, for instance, a strong possibility that substantial wage differences on the basis of skin color may exist within the population that catalogues itself as White. But our analysis cannot illuminate this issue and must wait for future research.

The research presented in this paper raises serious concerns regarding the present policy environment in Puerto Rico, which pretends racial issues do not exist in the Island. We find that race does matter. As a result, there is a need in the Island to study more carefully economic disparities on the basis of race, and to establish policies that effectively combat prejudice, bias, and discrimination.

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Table 1

Racial Distribution in Puerto Rico, 1860-1940

Year	Total Population	"White" Population	White as a % of Total Population
1860	583,041	300,266	51.5%
1899	952,400	588,583	61.8
1910	1,117,267	731,810	65.5
1920	1,300,370	949,270	73.0
1930	1,545,501	1,148,307	74.3
1940	1,866,004	1,427,493	76.5
1950	2,208,335	1,760,043	79.7
2000	3,619,404	2,913,620	80.5

Source: Spanish and U.S. census of Population, Puerto Rico data, various years.

Table 2

Racial Distribution, Puerto Rico, 2000

All Persons in Households

	White	Black	Other	"Colored" (Black plus Other)
Total Population By Race	2,913,620	401,753	304,031	705,784
Proportion of Total Population	80.5%	11.1%	8.4%	19.5%
Male	80.0	11.6	8.4	20.0
Female	81.0	10.6	8.4	19.0
Puerto Rican	81.3	10.7	9.1	19.8
Dominican	36.2	37.8	26.0	63.8
Puerto Ricans on the U.S. Mainland	75.1	12.9	12.0	24.9

Source: 2000 U.S. Census of Population 5% Public Use Microdata Sample, Puerto Rico data and U.S. Mainland data. Author's tabulations.

Figure 1

Geographical Distribution of Non-White Population, 2000

Black area: 50% or More of Population
Grey area: 30 to 50% of Population
White area: Less than 30% of Population

Table 3

Muncipios (Counties) of Highest Concentration of Non-White Population

Municipio	Non-White Population (Black and Other Race) as a Percentage of Total Population in Municipio
Loíza	69.8%
Arroyo	53.4
Canóvanas	37.0
Río Grande	33.7
Patillas	32.1
Maunabo	31.9
Cataño	31.3
Luquillo	31.0
Ceiba	30.7
Carolina	30.6
Yabucoa	30.6
Humacao	30.0

Source: 2000 U.S. Census of Population for Puerto Rico.

Figure 2

Geographical Distribution of "Colored" Population, 1940

Black area: 50% or More of Population

Grey area: 30 to 50% of Population

White area: Less than 30% of Population

Table 4

Per-Capita Income in Puerto Rico and the U.S., by Race

All Persons in Households

	Mean Household Income Per-Capita, 1999	
	Puerto Rico	United States Mainland
Overall Population	$8,185	$21,587
White Population	8,448	23,918
Black Population	6,495	14,222
Other	6,901	14,917
Black/White Income Ratio	76.9%	65.9%

Source: 2000 U.S. Census of Population. Author's tabulations.

Table 5

Per-Capita Income in Puerto Rico and the U.S., by Race

All Persons in Households

	Poverty Rate, 1999	
	Puerto Rico	United States Mainland
Overall Population	48.7%	12.4%
White Population	47.5	9.4
Black Population	54.0	22.1
Other	53.3	18.9
Black/White ratio x 100	113.4%	235.1%

Source: 2000 U.S. Census of Population. Author's tabulations.

Table 6

Labor Force Participation in Puerto Rico and the U.S., by Race

Persons 16 years of age or older

	Mean Labor Force Participation Rate, 2000	
	Puerto Rico	United States Mainland
Overall Population	41.3%	67.2%
White Population	40.5	67.4
Black Population	42.8	65.8
Other	46.7	61.7

Source: 2000 U.S. Census of Population. Author's tabulations.

Table 7

Unemployment Rate in Puerto Rico and the U.S., by Race

Persons in the Labor Force

	Mean Unemployment Rate, 2000	
	Puerto Rico	United States Mainland
Overall Population	14.8%	4.0%
White Population	14.3	2.9
Black Population	16.0	7.9
Other	17.2	6.4

Source: 2000 U.S. Census of Population. Author's tabulations.

Table 8

Weekly Earnings Differentials in Puerto Rico, By Race

Employed persons in the Labor Force with Positive Earnings

	Average Weekly Earnings			
	Puerto Rico		U.S. Mainland	
	Male	Female	Male	Female
White Population	532	389	$956	$587
Black Population	383	298	662	545
Black/White Ratio (%)	72.4%	76.6%	69.2%	92.9%

Source: 2000 U.S. Census of Population. Author's tabulations.

Table 9. Sample Means

Variable	Male		Female	
	White	Black	White	Black
Log WeeklyWage	5.771	5.641	5.633	5.4757
LESSHS (Proportion of sample with Some high school schooling)	0.085	0.103	0.039	0.055
HIGHSC (Proportion of sample with high school diploma)	0.259	0.280	0.174	0.207
SOMECOLL (Proportion of sample with some college education)	0.277	0.268	0.317	0.338
COLLEGE (Proportion of sample with college degree)	0.175	0.116	0.322	0.245
MORECO (Proportion with more than a college degree)	0.071	0.047	0.096	0.066
EXPER (Years of Experience)	20.1	20.5	18.1	18.6
EXPERSQ (Experience Squared)	585.7	602.6	480.6	500.6
MARRIED (Proportion married)	0.683	0.644	0.536	0.472
USBORN (Proportion born in U.S.)	0.083	0.057	0.091	0.063
DOMINICAN (Proportion of sample Born in Dominican Republic)	0.009	0.087	0.011	0.093
RECENT (Proportion of sample migrating to P.Rico in 1995-2000)	0.007	0.012	0.005	0.018
STATEW (Percentage employed in public sector)	0.225	0.232	0.312	0.347
HOURS (Hours worked per week)	38.6	38.2	36.3	35.7
Number of observations	17,613	2,493	14,256	1,820

Table 10
Regression Estimates, Male Wage Equation

Independent Variable	White Sample Parameter Estimate	T-Statistic	Black Sample Parameter Estimate	T-Statistic
INTERCEPT	3.9115*	152.5	3.9863*	62.5
LESSHS	0.1451*	6.47	0.0641	1.3
HIGHSC	0.2603*	14.6	0.2025*	5.1
SOMECOLL	0.4923*	27.0	0.4216*	10.2
COLLEGE	0.8899*	45.2	0.7109*	14.2
MORECOLL	1.1966*	49.2	0.8031*	12.3
EXPER	0.0298*	24.3	0.0294*	9.9
EXPERSQ	-0.0004**	-17.6	-0.0004*	-7.3
MARRIED	0.1356*	12.0	0.1461*	5.5
USBORN	0.0691*	3.8	0.0930	1.7
DOMINICAN	0.0016	0.03	0.0207	0.5
RECENT	0.0016	0.03	0.1988	1.8
STATEW	-0.0110*	-0.9	0.0806*	2.7
HOURS	0.0246*	49.3	0.0232*	18.3
No. of observations	17,613	--	2,493	--
R-SQ	0.36	--	0.30	--

* = Statistically significant at the 99 percent confidence level.
** = Statistically significant at the 95 percent confidence level.

Table 11
Regression Estimates, Female Wage Equation

Independent Variable	White Sample Parameter Estimate	White Sample T-Statistic	Black Sample Parameter Estimate	Black Sample T-Statistic
INTERCEPT	3.9274*	125.4	4.1070*	55.4
LESSHS	0.0524	1.5	0.0580	0.8
HIGHSC	0.1136*	4.3	0.0894	1.5
SOMECOLL	0.2997*	11.5	0.2719*	4.6
COLLEGE	0.6699*	25.4	0.6020*	9.7
MORECOLL	0.9814*	33.3	0.8662*	11.6
EXPER	0.0260*	20.5	0.0209*	6.3
EXPERSQ	-0.0004**	-12.9	-0.0003*	-4.0
MARRIED	0.0085	0.8	0.0565**	2.1
USBORN	0.0454*	2.7	-0.0041	-0.1
DOMINICAN	-0.0364	-0.8	-0.0607	-1.2
RECENT	0.0098	0.1	-0.0566	-0.6
STATEW	0.0070	0.6	0.0793*	2.7
HOURS	0.0266*	51.4	0.0211*	16.6
No. of observations	14,256	--	1,820	--
R-SQ	0.36	--	0.32	--

* = Statistically significant at the 99 percent confidence level.
** = Statistically significant at the 95 percent confidence level.

Table 12

Accounting for Black-White Earnings Differentials

	Male	Female
Observed log-real wage difference between Black and White workers	0.1300	0.1573
Log-wage difference due to differences in characteristics between Black and White workers	0.0791	0.0856
due to differences in education	0.0685	0.0694
due to differences in other characteristics	0.0106	0.0162
Log-wage difference NOT due to differences in characteristics between Black and White workers	0.0509	0.0717
Percentage of observed log-wage gap explained by differences in characteristics	60.8%	54.4%
Percentage of observed log-wage gap unexplained by differences in characteristics	39.2%	45.6%