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The Economic Lives of Black Immigrants: An Analysis of Wages, Homeownership, and Locational Attainment in the United States

Rebbeca Tesfai
University of Pennsylvania, rtesfai@sas.upenn.edu

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The Economic Lives of Black Immigrants: An Analysis of Wages, Homeownership, and Locational Attainment in the United States

Abstract

Black immigrants are a quickly growing population who experience the effects of the intersection of race and national origin. Despite their significance, black immigrants are often overlooked because they are a small population compared to other immigrants. This dissertation consists of three separate studies sharing the objective of investigating black immigrant incorporation into the United States. Each chapter uses U.S. census and American Community Survey data to investigate an aspect of black immigrants' wage and housing outcomes. Chapter one analyzes wage differences among blacks using linear regression models, which also control for selection into full-time employment. Chapter two also uses regression models to determine likelihood of homeownership and the values of homes once a household selects into homeownership. Chapter three measures the racial and socioeconomic segregation of black immigrants with the locational attainment model.

I find in chapter 1 that, contrary to previous research, all black immigrants earn significantly lower wages than U.S.-born blacks. Yet, in chapter two I find that Caribbean immigrants are significantly more likely than U.S.-born blacks to own their homes and their homes are of equivalent or higher value than even U.S.-born whites at the national level. African-born blacks' homeownership and house value increases over time, with house values reaching the levels of U.S.-born whites'. The high home values of foreign-born blacks indicate that black immigrants are able to gain access to neighborhoods that U.S.-born blacks are not. This is confirmed in chapter 3; I find that foreign-born blacks are less segregated from U.S.-born whites than U.S.-born blacks and live in neighborhoods where they are more likely to be exposed to those with at least a college degree or with an income to poverty ratio of three or more. In some metropolitan areas foreign-born blacks are more likely to live in these areas than even U.S.-born whites.

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THE ECONOMIC LIVES OF BLACK IMMIGRANTS: AN ANALYSIS OF WAGES,

HOMEOWNERSHIP, AND LOCATIONAL ATTAINMENT IN THE UNITED STATES

Rebbeca Tesfai

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in

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Supervisor of Dissertation

_____

Janice Madden, Professor of Regional Science, Sociology, and Real Estate

Graduate Group Chairperson, Demography

_____

Hans-Peter Kohler, Frederick J. Warren Professor of Demography

Graduate Group Chairperson, Sociology

_____

Emily Hannum, Associate Professor of Sociology and Education

Dissertation Committee

Janice F. Madden, Professor of Regional Science, Sociology, and Real Estate
Irma T. Elo, Professor of Sociology
Chenoa Flippen, Assistant Professor of Sociology

THE ECONOMIC LIVES OF BLACK IMMIGRANTS: AN ANALYSIS OF WAGES,

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Dedication

To my mother, whose life inspired this dissertation and whose support made it possible.

Acknowledgement

I am extremely grateful to a number of people whose support, guidance, and encouragement allowed me to complete this dissertation. First, I am thankful for the mentorship of my dissertation committee chair, Janice Madden. I am indebted to her for the immense amount of time and effort she has spent providing me with thoughtful critiques and advice. Because of her guidance I am a better researcher than I would have otherwise been. Irma Elo has been a wonderful advisor and extremely supportive of my research interests. She has also been instrumental in helping me expand my future research agenda. Chenoa Flippen has also provided me with critical feedback and advice on my work. Her insights will continue to benefit me throughout my career.

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Finally, I would like to thank my family. They have been the best motivation and their constant love and encouragement has been my joy. This is for them.

ABSTRACT

THE ECONOMIC LIVES OF BLACK IMMIGRANTS: AN ANALYSIS OF WAGES, HOMEOWNERSHIP, AND LOCATIONAL ATTAINMENT IN THE UNITED STATES

Rebbeca Tesfai

Janice Madden

Black immigrants are a quickly growing population who experience the effects of the intersection of race and national origin. Despite their significance, black immigrants are often overlooked because they are a small population compared to other immigrants. This dissertation consists of three separate studies sharing the objective of investigating black immigrant incorporation into the United States. Each chapter uses U.S. census and American Community Survey data to investigate an aspect of black immigrants' wage and housing outcomes. Chapter one analyzes wage differences among blacks using linear regression models, which also control for selection into full-time employment. Chapter two also uses regression models to determine likelihood of homeownership and the values of homes once a household selects into homeownership. Chapter three measures the racial and socioeconomic segregation of black immigrants with the locational attainment model.

I find in chapter 1 that, contrary to previous research, all black immigrants earn significantly lower wages than U.S.-born blacks. Yet, in chapter two I find that Caribbean immigrants are significantly more likely than U.S.-born blacks to own their homes and their homes are of equivalent or higher value than even U.S.-born whites at the national level. African-born blacks' homeownership and house value increases over time, with house values reaching the levels of U.S.-born whites'. The high home values of foreign-born blacks indicate that black immigrants are able to gain access to neighborhoods that U.S.-born blacks are not. This is confirmed in chapter 3; I find that foreign-born blacks are less segregated from U.S.-born whites than U.S.-born blacks and live in neighborhoods where they are more likely to be exposed to those with at least a college degree or with an income to poverty ratio of three or more. In some metropolitan areas foreign-born blacks are more likely to live in these areas than even U.S.-born whites.

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Introduction

When race or immigration is discussed in American policy debates and research literature, there is one group that is usually overlooked: foreign-born blacks. Due to the rigidity of racial boundaries in the United States, nativity has been assumed unimportant among blacks (Waters and Eschbach 1995) and due to their small numbers, they are largely ignored in immigration literature. However, the foreign-born black population has increased dramatically over time, from 5% of all blacks in 1990 to nearly 10% in 2010[1]. Immigration also accounts for a sizable proportion of black population growth in the United States.

Despite foreign-born black population growth over the last twenty years, this group has mostly been overlooked in immigration literature and policy debates as well as in the academic literature on race. This dissertation serves to help fill this void by examining the economic and social incorporation of black immigrants in the United States. However these aspects of the foreign-born black experience cannot be understood without first describing the immigration and racial context black immigrants have joined in the United States. In this introduction, I will describe changes in immigration policy and how these laws affected black immigration patterns. I will then provide the demographic, human capital, and residential patterns of foreign-born blacks over time that, in part, illustrate the ways in which immigration laws affected the characteristics of black immigrant population. Finally, with this background in place, I will describe my dissertation research and its contributions to research and policy debates.

Immigration Policy over Time

Immigration debates, including the current immigration reform negotiations, do not consider the black immigrant experience because of their small population relative to other minority immigrant groups such as Hispanics. Tables one and two present the adult African and non-Hispanic Caribbean populations in the United States by colonial history using the 5% sample of the 1990 and 2000 census and the 2006-2010 pooled American Community Survey (5%). Given the size

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[1] Author's calculations, 1990 United States Census, 2005-2010 pooled American Community Survey (Ruggles et al. 2010)

of both populations it is unlikely that foreign-born blacks will reach the numbers of the largest

immigrant population, foreign-born Hispanics, for a number of reasons. For Africans in particular,

immigration is more difficult due to the long distance and expense of immigration. More

generally, black immigrants may be disadvantaged in that, unlike Hispanics, even the most recent

immigration laws have never been implemented with their immigration experience in mind.

Nevertheless, as immigration laws were put into effect, the foreign-born black population in the

United States also changed.

Black immigrant population change began with the 1965 Hart-Cellar Act because it eliminated

national origin quotas limiting immigration to the U.S. (Alba 2003). This act opened doors to

those that were implicitly barred from immigration before 1965 and made family connections the

principal basis for admission to permanent residence in the United States (Waldinger 1989). The

Hart-Cellar Act led to much more diversity in immigrants coming to the United States, but this act

had varying effects among black immigrants.

Table 1 - African Black Immigrant Population by Colonial History (Men and Women, 18+)

	1990	2000	2010
British African (N)			
Botswana	10	---	---
Gambia	46	---	---
Ghana	698	2,375	3,810
Kenya	235	981	1,983
Lesotho	8	---	---
Malawi	11	---	---
Namibia	10	---	---
Nigeria	1,902	4,817	7,173
Sierra Leone	233	727	1,058
South Africa	117	197	327
Sudan	76	396	1,015
Swaziland	13	---	---
Tanzania	40	174	305
Uganda	130	264	423
Zambia	17	---	---
Zimbabwe	33	225	338
French African (N)			
Benin	9	---	---
Burkina Faso	4	---	---
Cameroon	108	409	1,005
Central African Republic	6	---	---
Chad	1	---	---
Congo	11	---	---
Equatorial Guinea	1	---	---
Gabon	4	---	---
Guinea	24	---	303
Guinea-Bissau	1	---	---
Ivory Coast	36	---	---
Mali	10	---	---
Mauritania	2	---	---
Mauritius	4	---	---
Niger	7	---	---
Rwanda	10	---	---
Sao Tome	3	---	---
Senegal	63	347	515
Seychelles	10	---	---
Togo	22	---	---
Other African (N)			
Africa, ns	450	3,416	3,778
Angola	16	---	---
Burundi	5	---	---
Cape Verde	136	384	645
Central Africa, ns	2	---	---
Eastern Africa, ns	12	---	626
Eritrea	n/a	626	792
Ethiopia	1,131	2,493	4,525
Liberia	354	1,341	2,063
Mozambique	6	---	---
Somalia	57	915	1,718
Western Africa, ns	99	---	1,740
Zaire	73	---	---

Data Sources: 1990 and 2000 census (5% sample), 2006-2010 pooled American Community Survey (5%)

Table 2 - Non-Hispanic Black Caribbean Immigrant Population by Colonial History (Men and Women, 18+)

	1990	2000	2010
British Caribbean			
Anguilla	31	---	---
Antigua-Barbuda	390	739	682
Bahamas	624	1,000	1,060
Barbados	1,429	2,052	2,048
Bermuda	175	188	203
British Virgin Islands	61	---	---
British West Indies	61	---	---
Cayman Islands	19	---	---
Grenada	514	1,040	1,142
Jamaica	10,840	21,405	23,802
Montserrat	109	---	---
St. Kitts-Nevis	253	439	446
St. Vincent	350	765	726
Trinidad and Tobago	3,280	6,176	7,184
Turks and Caicos	18	---	---
French Caribbean			
Dominica	174	470	558
Guadeloupe	32	---	---
Haiti	7,210	16,473	18,374
Martinique	22	---	---
St. Lucia	242	503	705
Other Caribbean			
Antilles, ns	1	---	---
Aruba	77	---	---
Caribbean, ns	19	---	668
Cuba	93	88	93
Dominican Republic	74	166	98
Leeward Islands	1	---	---
Netherlands Antilles	72	---	---
West Indies, ns	576	1,012	1,356

Data Sources: 1990 and 2000 census (5% sample), 2006-2010 pooled American Community Survey (5%)

Given their long history of immigration to the U.S., larger population in the United States relative to the African-born (Figure one) and being part of the western hemisphere quota, the Hart-Cellar Act increased immigration for Caribbean-born blacks. However, for the African born, mass migration to the United States did not begin until the 1980s and 1990s (Figure one); only 7% of African immigrants in the United States in 2010 came to the United States before 1980 as compared to nearly 30% of Caribbean immigrants (Figure two).

Figure 1 – Foreign-born black population in the United States over time
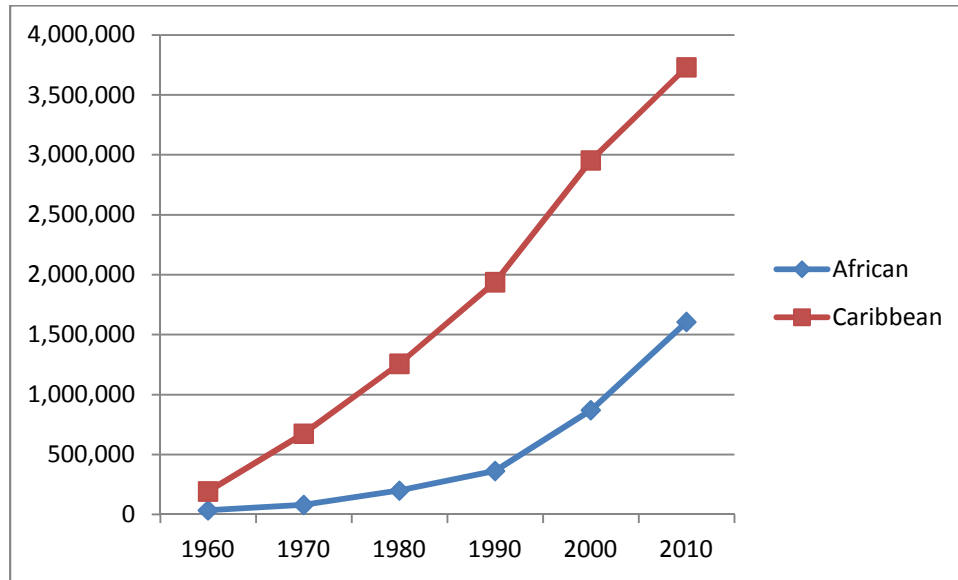
Data Sources: (Gibson and Lennon 1999; Malone, Baluja et al. 2003; Greico, Acosta et al. 2012)

Figure 2 – Timing of Immigration for Black Immigrants (%): 2006-2010
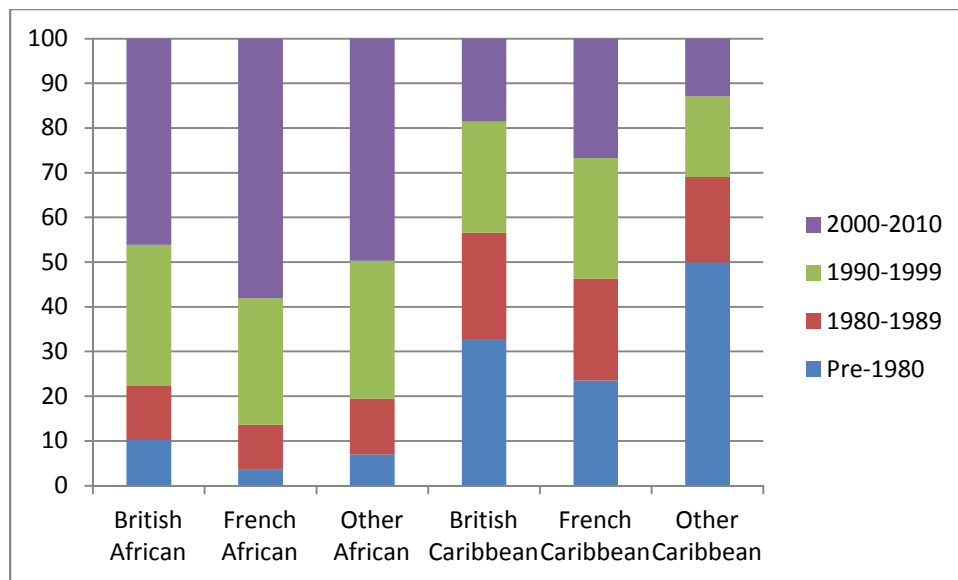
Data Source: 2006-2010 American Community Survey

Africans' delay in immigration relative to Caribbean-born blacks occurred for multiple reasons.

First, most African countries gained independence during the 1960s and 1970s, and post

independence there were many job opportunities for those who completed their education

(Kollehlon and Eule 2003). Furthermore, immigrants from former colonies were more likely to migrate to their former colonizing country because of immigration preference systems. For example, it was not until 1971 that citizens of British Commonwealth countries who had not already acquired permission to enter or live in the U.K. began to face the same restrictions as individuals from non-Commonwealth countries applying to live and work in Britain (Hatton 2005). These changes in immigration laws, combined with a reduced need for unskilled workers in Europe, led to the United States becoming a major African immigrant destination country. Finally, immigration legislation of 1980 and 1990 opened the U.S. to African immigrants in new ways.

The Refugee Act of 1980 brought the U.S. definition of a refugee in line with international standards (Parish 1992). It also provided a flexible procedure to deal with humanitarian emergencies outside of the annual ceiling, and, for the first time, established an asylum provision in immigration law (Kennedy 1981). The effects of this act can be seen in the large increase in black immigrant refugee admissions over time. Figures three and four show immigrants by class of admission for 2000 and 2010 respectively. There is a drastic increase in the proportion of African immigrants admitted to the United States as refugees, with the largest percentage from Other African (non-British or French colonial heritage) countries, predominantly made up of immigrants from Ethiopia, Eritrea, and Somalia.

Figure 3 – Immigrants admitted by selected class of admission (2000)
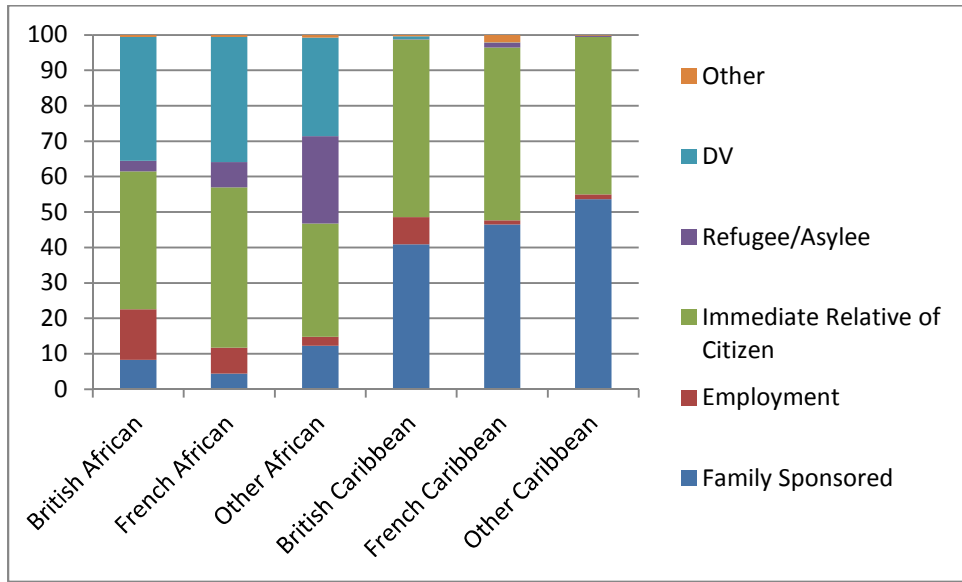
Data Source: (U.S. Immigration and Naturalization Service 2002)

Figure 4 – Immigrants obtaining legal permanent residence by selected class of admission (2010)
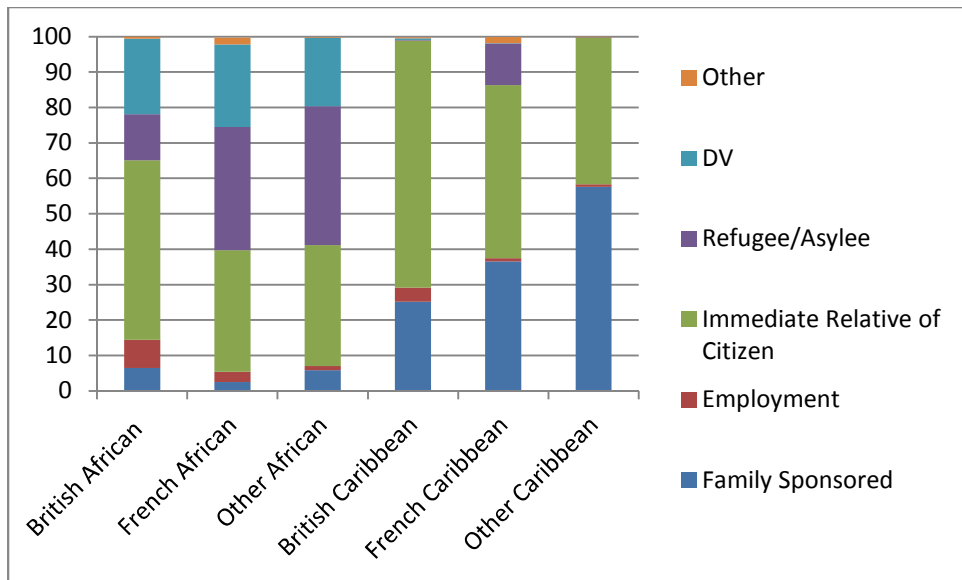
Data Source: (United States Department of Homeland Security 2011)

African immigration also increased following the 1990 Immigration Act. This legislation increased the total immigration cap, while increasing the number of employment based visas and, most importantly for the African-born, establishing a permanent provision for the Diversity Visa (DV) lottery (Law 2002). The visa lottery was put in place to provide visas to individuals from countries with historically low rates of immigration but has now become the primary visa group for skilled African professionals (Lobo 2001). Just over 1/3 and 1/5 of all African immigrants entering the U.S. in 2000 and 2010 respectively came to the United States on a Diversity Visa (Figures three and four). Caribbean countries receive far fewer (less than 1%) Diversity Visa slots because of their long history of immigration to the United States.

While previous legislation opened up doors to immigration by eliminating quotas, broadening visa definitions, and creating new visa types, 1986 and 1996 immigration laws focused primarily on *reducing* the total number of immigrants through policy focusing on the undocumented. The 1986 Immigration Reform and Control Act (IRCA) aimed to reduce the number of undocumented immigrants through employer sanctions, border enforcement, and legalization of unauthorized immigrants. Given the low levels of Caribbean or African immigrants illegally crossing a land border, the most important aspect of this law for foreign-born blacks was the legalization of the undocumented.

Although the total number of undocumented black immigrants is small, as a proportion of the foreign-born black population, unauthorized immigration is substantial. Approximately 16% of Caribbean and 21% of African-born blacks were unauthorized in 2006-2008 compared to 30% of all immigrants in the United States (Thomas 2012). While the proportion of undocumented black Caribbean immigrants is half that of the average for all immigrants today, historically, the difference between the proportion undocumented among Caribbean-born blacks and other immigrants was much smaller. In the 1970s, Jamaica and Haiti were among the top 14 countries of origin for undocumented immigrants to the United States (Bryce-Laporte 1972). In 1980 Jamaica, Haiti, the Dominican Republic, Cuba, and Trinidad and Tobago accounted for as much

as 7.1% of the total unauthorized immigrant population to the United States (Passel and Woodrow 1984).

Although a substantial proportion of African and Caribbean-born blacks were and are undocumented, very few African and Caribbean immigrants received legal permanent residency from IRCA status adjustment (U.S. Immigration and Naturalization Service 1997; U.S. Immigration and Naturalization Service 2002). These low numbers reflect IRCA's focus on undocumented Mexicans. Immigration and Naturalization Services fought in courts to exclude undocumented immigrants who did not enter the United States without inspection (i.e. crossed the border illegally) (Baker 1997). Although immigrants who did not enter without inspection (i.e. overstayed their visa) were eventually allowed to apply, court challenges were necessary for the acceptance of their applications, making the process much more difficult for these immigrants. This disadvantaged foreign-born blacks because they are more likely than the Mexican-born to become undocumented by overstaying their visa. In addition, due to the way the legislation was publicized, non-Hispanic immigrants were much less likely to learn of the possibility of legalization through IRCA (Cooper and O'Neil 2005). Due to the combination of their mode of entry and the ways in which IRCA was publicized, undocumented foreign-born blacks were unable to benefit from this legislation in the same ways as other undocumented groups.

Ten years after IRCA, an additional federal legislation was put into place to decrease illegal immigration into the United States: The Illegal Immigration Reform and Immigrant Responsibility Act of 1996. This act increased the penalty for overstaying nonimmigrant visas, implemented new bars to asylum, and allowed summary exclusion without the right to a hearing before an immigration judge if an individual arrives at a U.S. port of entry either with false documents or without documents (Fragomen 1997). Given the focus of this legislation, it may have disproportionately affected the immigration patterns of foreign-born blacks for two reasons. First, undocumented foreign-born blacks usually become undocumented through overstaying nonimmigrant visas and, before this legislation, those who overstayed their visa were allowed to

adjust to permanent residency status by paying a fee (Fragomen 1997). With the passage of this legislation, these individuals are now eligible for immediate deportation and barred from return for at least 10 years. Second, the focus on asylum procedures may also have decreased foreign-born blacks' ability to come to the United States, specifically African-born blacks. Despite the small total population of African immigrants to the United States, Africans have historically made up a large proportion of asylees in the United States; nearly 1/3 of those granted asylum in 2000 were African (U.S. Immigration and Naturalization Service 2002). This proportion decreased over time but by 2010 approximately 1/4 of asylees were still African-born (United States Department of Homeland Security 2011).

The current immigration debate addresses a number of aspects of current immigration law and, though none of the legislation is formulated with foreign-born blacks in mind, the proposed legislation will have a substantial effect on black immigration to the United States. First, the proposed legislation would increase border surveillance and apprehensions as well as provide a 13 year path to citizenship for the undocumented who came to the United States before December 31, 2011 (Parker 2013). Given the proportion of each black immigrant group that is undocumented, this legislation would have a greater effect on the African population. However, as with IRCA, the effect on non-Hispanic immigrants will depend on the ways in which this program is publicized and implemented.

In addition, and most importantly for the African-born, the diversity visa lottery may be eliminated (Constable 2013). As stated earlier, approximately 20% of African immigrants entering the United States in 2010 arrived on diversity visas. The elimination of this lottery would substantially decrease African immigration to the U.S. Given the low numbers of diversity visas among Caribbean-born blacks, this portion of the legislation will have little impact on their immigration to the United States.

Finally, the plan intends to reduce the number of family reunification visas and increase the number of employment based visas to place a greater emphasis on education and merit (2013).

Because of the variation in the socioeconomic characteristics of African and Caribbean-born blacks, this portion of the legislation will have different effects on African and Caribbean immigration as well. The vast majority of Caribbean immigrants come to the United States on family reunification visas and therefore this legislation would serve to decrease Caribbean immigration to the United States. African immigrants, by contrast, are less likely to come to the United States under family-based visas, partly because a large proportion of this population has only been in the United States for a short time. Africans are also one of the most highly educated immigrant groups in the United States and a greater emphasis on education and merit would only serve to increase this population.

Foreign-Born Blacks in the United States (1990-2010)

Socioeconomic differences between U.S. and foreign-born blacks are well documented, however most analyses combine foreign-born blacks into a single group or, at best, only distinguish between African and Caribbean immigrants. By doing so, these analyses implicitly assume that all foreign-born blacks have similar socioeconomic characteristics. However, as evidenced in Table three, there is substantial variation both between African and Caribbean immigrants as well as among African and Caribbean-born groups.

African immigrants are the youngest of all three black groups, with even the oldest African group younger than both Caribbean immigrants and U.S.-born blacks. Though immigrants are usually younger than their U.S.-born counterparts, because immigrants migrate as young adults Caribbean-born blacks are older than the U.S.-born in both 2000 and 2010. The age differences between African and Caribbean-born blacks are mostly due to the difference between the two groups' immigration histories. As Caribbean-born blacks have spent more time in the United States, their population is also older, on average, than African immigrants. Given their time in the U.S. and the residency requirements of U.S.-citizenship, a much larger proportion of Caribbean immigrants are U.S.-citizens than the African-born.

Table 3 – Demographic Characteristics of US and Foreign-born blacks in the United States (Age: 18+)

	1990			2000			2010		
African-born black									
	British	French	Other	British	French	Other	British	French	Other
% US Citizen	20	13	24	34	22	31	48	26	42
Average Age	34	32	34	38	35	37	41	38	39
% Male	65	67	58	56	63	53	53	56	51
Marital Status (%)									
Married	58	52	47	57	53	49	58	58	53
Separated	7	6	6	6	4	6	5	4	4
Divorced	7	3	7	8	6	7	8	7	8
Widowed	1	1	2	2	1	3	3	2	3
Never Married	27	38	38	28	36	34	26	29	31
Non-Hispanic Caribbean-born black									
	British	French	Other	British	French	Other	British	French	Other
% US Citizen	41	29	53	56	46	57	64	56	71
Average Age	41	39	44	44	42	45	48	46	53
% Male	44	49	46	43	47	45	42	46	43
Marital Status (%)									
Married	49	50	46	48	52	46	49	53	47
Separated	6	6	7	6	6	6	5	5	6
Divorced	9	8	10	11	9	10	13	10	15
Widowed	5	4	8	5	5	6	6	5	9
Never Married	31	32	29	30	29	31	28	27	24
U.S.-born non-Hispanic black									
Average Age		42			43			46	
% Male		44			45			45	
Marital Status (%)									
Married		38			37			34	
Separated		7			6			5	
Divorced		11			12			13	
Widowed		10			8			8	
Never Married		35			36			40	

Data Source: 1990 and 2000 census (5% sample), 2005-2010 pooled American Community Survey (5%)

Caribbean immigrants are also disproportionately female. Black female immigrants have been largely ignored in the literature and viewed as dependents (Corra and Kimuna 2009); however, women have long dominated black Caribbean immigration flows to the United States (Ho 1999). African immigrants, by contrast, are predominantly male but have become less so over time. There are two possible causes for the decreased gender gap among African immigrants. With the increase in population and time in the United States, African wives may have been brought to the United States through family reunification visas. However, because the proportion of African immigrants coming to the United States on family sponsored visas actually decreased between 2000 and 2010, it is more likely that the decreased gender gap is due to an increase in African women coming to the United States independently.

Residential Patterns

Just as there are socioeconomic differences between African and Caribbean-born blacks, there are also large differences in their settlement patterns (Figures five and six), largely due to differences in immigration patterns. The combination of Africans' visa categories and shorter history of immigration led to their more dispersed settlement pattern relative to Caribbeans. Africans are much less likely to come to the United States as the immediate relative of a citizen or on a family sponsored visa and, consequently, do not automatically immigrate to areas that already have an African immigrant community. In addition, Africans who come to the United States as refugees do not initially choose their settlement community, leading to wider dispersal of these groups.

A comparison of figures five and six show that only half of the top Caribbean settlement areas overlap with those of the African-born. Caribbean immigrants are also much less geographically dispersed than Africans. Four of the top 11 Caribbean settlement metro areas are located in Florida, while only two major African settlement areas are in the same state (Texas). Although African and Caribbean immigrants differ in terms of settlement areas, what these two groups do have in common is their overwhelming presence in large metropolitan areas. This pattern is very different from U.S.-born blacks, nearly 1/5 of whom live outside of a metropolitan area (Figure seven). U.S.-born blacks are much more highly represented outside of metropolitan areas, while foreign-born blacks primarily live in cities and suburbs (Figures eight and nine). Given geographic variation in labor and housing markets due to location or the presence/absence of an ethnic enclave, differences between the U.S. and foreign-born in terms of residential patterns may have an effect on economic outcomes such as wages, homeownership, and house value.

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Figure 5 - Percent of Black African Immigrants Living in Top African Settlement Metro Areas 1990-2010
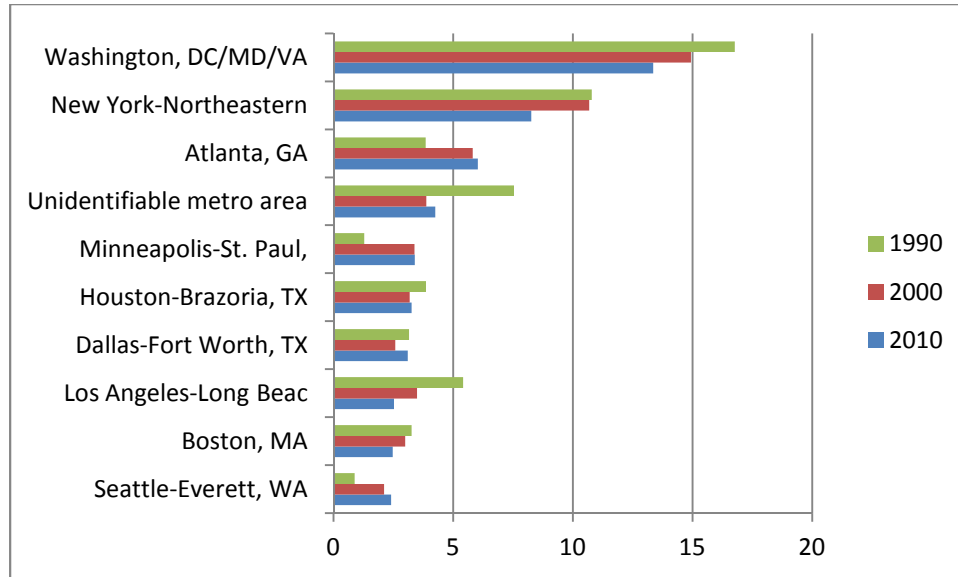
Data Source: 1990 and 2000 census (5% sample), 2006-2010 pooled American Community Survey (5%)

Figure 6 - Percent of Black Caribbean Immigrants Living in Top Caribbean Settlement Metro Areas 1990-2010
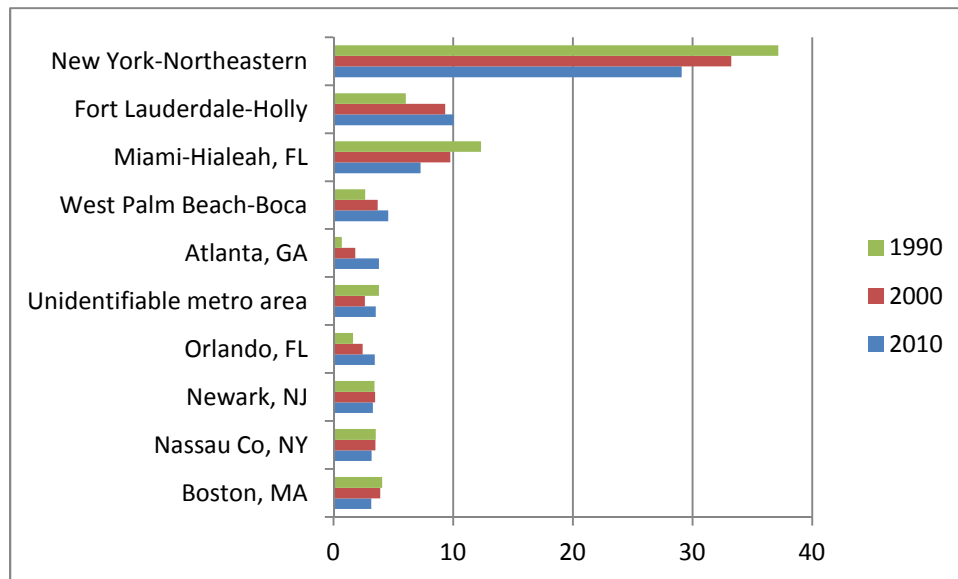
Data Source: 1990 and 2000 census (5% sample), 2006-2010 pooled American Community Survey (5%)

Figure 7 - Percent of US -born blacks Living in Top US-born black Settlement Metro Areas 1990-2010
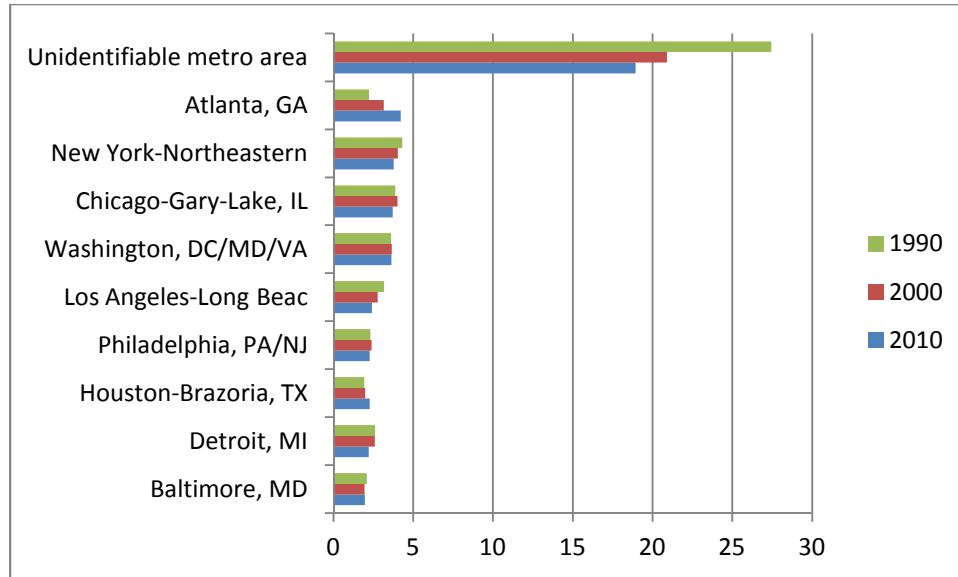
Data Source: 1990 and 2000 census (5% sample), 2006-2010 pooled American Community Survey (5%)

Figure 8 - Metro Area Status of U.S. and foreign-born blacks (%) - 2000
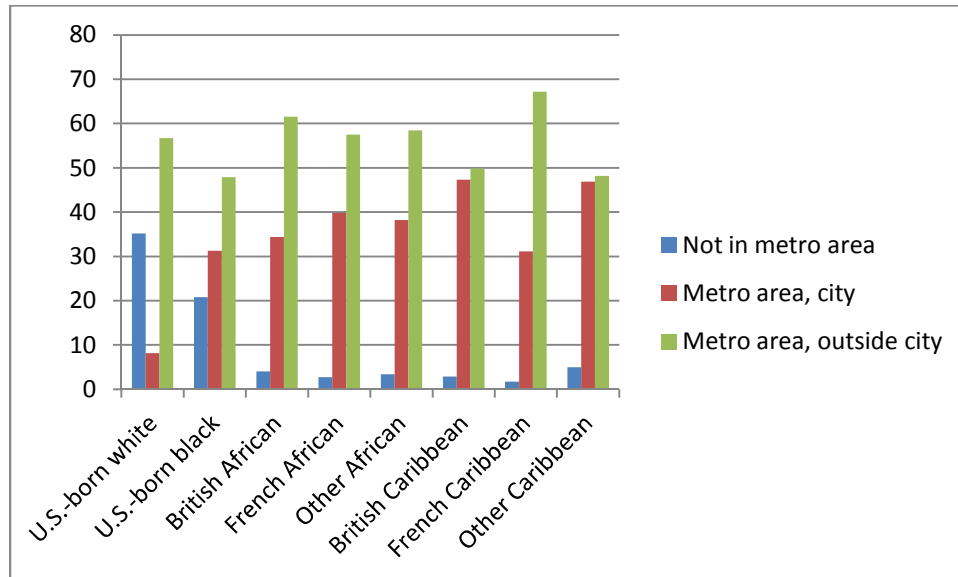
Data Source: 2000 census (5% sample)

Figure 9 - Metro Area Status of U.S. and foreign-born blacks (%) - 2010
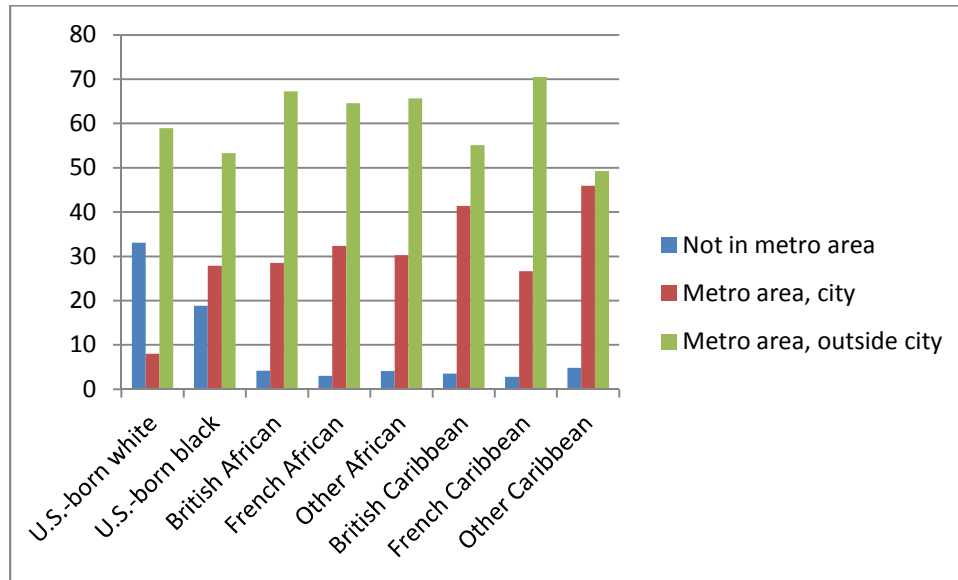
Data Source: 2006-2010 American Community Survey

Human Capital Characteristics of Foreign-born Blacks

As the number of immigrants from developing countries has increased, much has been made of the perceived decrease in immigrant "quality" over time (Borjas 1985; LaLonde and Topel 1991; Schultz 1998). However, this pattern does not seem to describe black African and Caribbean immigrants to the United States. All African immigrants average significantly higher levels of college education than U.S.-born blacks and British and French African immigrants' levels of college attainment are much higher than U.S.-born whites between 1990 and 2010 (Figure 10). The proportion of recent Caribbean immigrants with at least four years of college education is lower than U.S.-born blacks, but has consistently increased over time. Caribbean immigrants have rates of college education that are lower than or equivalent to U.S.-born blacks, but by 2010, a larger proportion of Caribbean immigrants have a college degree than U.S.-born blacks (Figure 11).

Figure 10 - Percent of black African Immigrants (25+, 5 years or less in the United States) with at least 4 years of College, 1990-2010
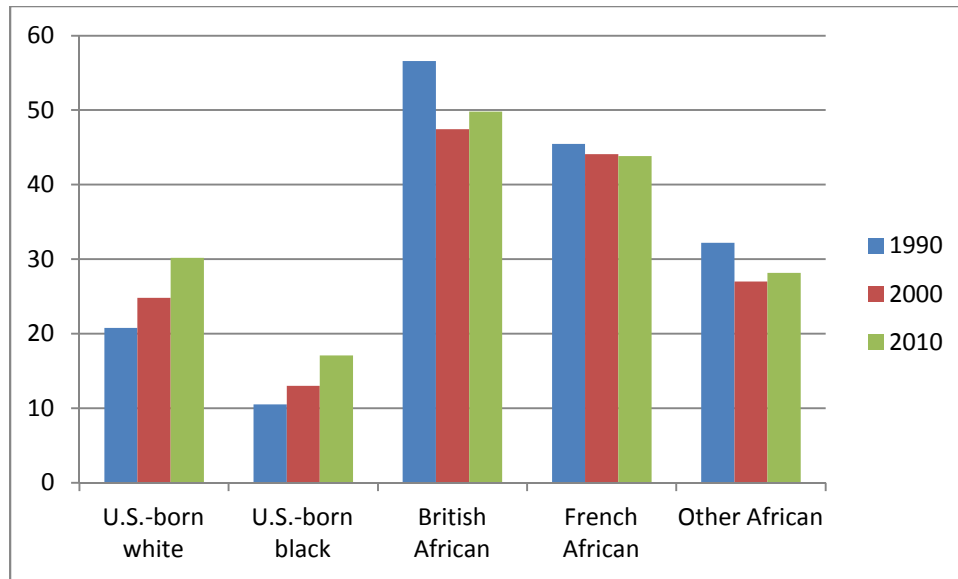
Data Source: 1990 and 2000 census, 2005-2010 American Community Survey

Figure 11 - Proportion of black Caribbean Immigrants (25+, 5 years or less in the United States) with at least 4 years of College, 1990-2010
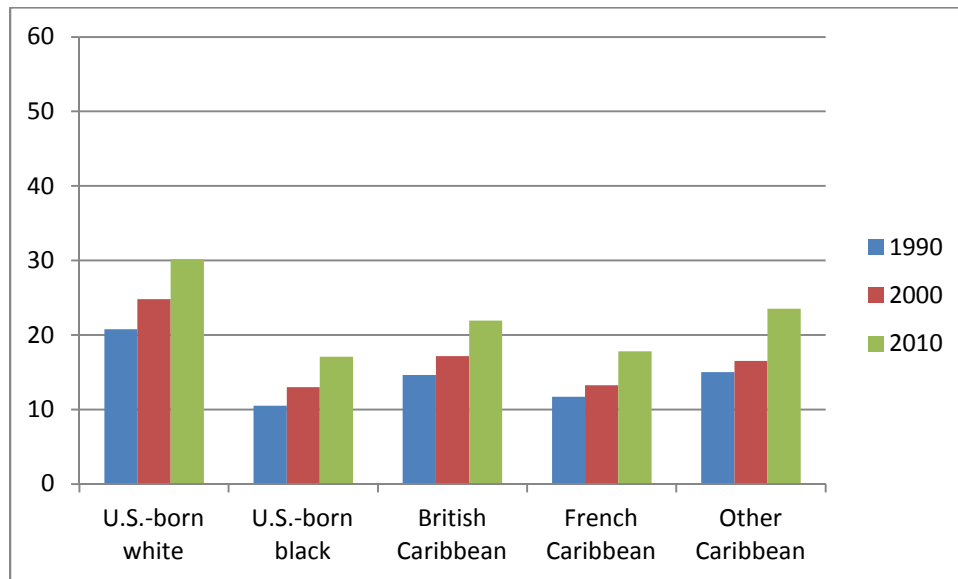
Source: 1990 and 2000 census, 2005-2010 American Community Survey

Another measure of immigrant "quality" is wages; here again there is no evidence of a decline over time. No immigrant men earn wages higher than or equivalent to U.S.-born whites. However all but two immigrant groups average higher wages than U.S.-born blacks in more than one time period (Figure 12). Wages of all men (Figure 12) and women (Figure 13) decreased between 2000 and 2010. Despite the decline, almost all immigrants earn higher wages than U.S.-born blacks in at least two of the three time periods. Overall, based on the educational and wage characteristics of foreign-born blacks, the "quality" of black immigrants has not decreased over time, nor do they underperform relative to the U.S.-born.

Figure 12 - Average Income (1999 dollars) of Men age 25+ who work full-time (1990-2010)

Source: 1990 and 2000 census, 2006-2010 American Community Survey

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Figure 13 - Average Income (1999 dollars) of Women age 25+ who work full time (1990-2010)
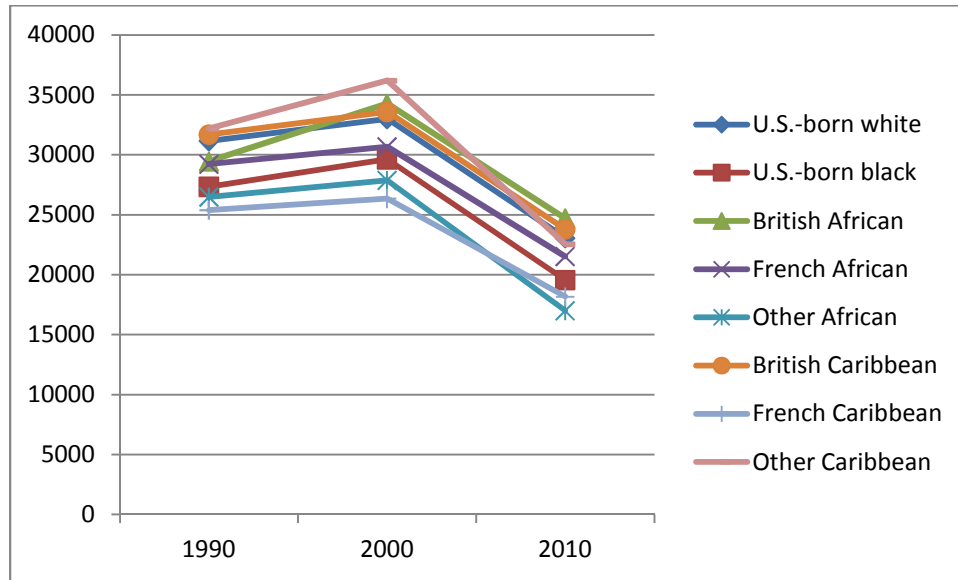
Source: 1990 and 2000 census, 2006-2010 American Community Survey

Dissertation and its Contributions to Research and Policy Debates

Due to their average socioeconomic characteristics, black immigrants have been labeled a puzzle because, on the surface, they are the only foreign-born group to have higher socioeconomic characteristics than their U.S.-born counterparts. Although these findings have had little effect on increasing the visibility of foreign-born blacks in the current immigration literature/policy debates, this is not the case in the public policy focusing on race. Policy debates emphasize the idea of a black immigrant advantage, the most widely known of which is the one surrounding the efficacy of affirmative action laws.

Because affirmative action policy is based on race, black immigrants are used to satisfy diversity requirements and many researchers claim this is to the detriment of U.S.-born blacks. They argue that black immigrants are different from U.S.-born blacks because they were not disadvantaged by the legacy of slavery, Jim Crow laws, segregation and racism (Rimer and Arenson 2004). Historical barriers to economic advancement are, of course, an important

determinant of black wages but foreign-born blacks may still be uniquely disadvantaged in the United States due to the combination of their race and nativity.

In order to determine whether black immigrants really are advantaged relative to the U.S.-born, this dissertation investigates the economic outcomes of black immigrants in the United States through wages, homeownership and house value, and locational attainment. I research more than one type of economic achievement to give a more complete view of how these immigrants are faring in the United States. The results provide a better understanding of the interaction between racial stratification and immigrant incorporation in the United States.

Chapter one investigates a striking disconnect between policy debates and research literature. Policy debates emphasize a black immigrant advantage even though the literature does not definitively state that black immigrants earn higher wages than U.S.-born blacks, nor does the research agree on the mechanisms explaining nativity based wage differences. This chapter contributes to the black immigrant wage literature by more accurately measuring the wages of black immigrants relative to the U.S.-born through two methodological improvements on previous work. I control for selection into full-time employment and address the importance of geographic concentration on hourly wages through a focus on two of the largest black immigrant settlement areas: New York and Miami. Although Washington D.C. is also a major settlement area with a substantial African population, I have excluded it from this analysis. The wages of the reference group (U.S.-born blacks) would be higher than the national average in Washington D.C. because of the preponderance of government positions. In addition, immigrants would be at a disadvantage relative to the U.S.-born in the Washington D.C. metropolitan area because many are not citizens and therefore ineligible for the same kinds of jobs. By controlling for selection into full-time employment and addressing the geographic concentration of black immigrants, this chapter provides a more accurate basis for debates surrounding nativity differences in black labor market outcomes.

While the debates surrounding immigrant advantages focus on wages that is not the only aspect of socioeconomic attainment that is important. Unlike wages which measure labor value at a single point in time (Keister and Moller 2000), homeownership reflects cumulative economic achievement (Myers and Lee 1998). Chapter two investigates nativity differences in homeownership and house value among blacks. Homeownership and house values have declined in recent years but homeownership is still a key source of economic well being, especially for black households. Homeownership accounts for approximately 80% of black households' median net worth (Gottschalck 2008). Despite the importance of homeownership in black wealth and the growing black immigrant population, there is only one study investigating the homeownership of black immigrants (Haan 2007) and none have researched the house values of foreign-born blacks. I investigate the homeownership and house value of black immigrants at the national level and in two major immigrant settlement areas: New York and Washington D.C. I focus on these metropolitan areas because both New York and Washington D.C. have had very little drastic change in housing value over time. This allows for more accurate comparisons of homeownership and house value across time periods. Finding variation by nativity, as I do in Chapter two, has direct implications on our assumptions about changes in racial wealth disparities over time.

Although low, wealth accumulation for minority households experiences a major increase through homeownership (Boehm and Schlottmann 2004). Therefore, as the first and second-generation immigrant population grows, black wealth will increasingly reflect black immigrant homeownership and wealth for a number of reasons. Homeownership is a major part of black wealth and racial wealth gaps are exacerbated by differences in inheritance (partly due to differences in homeownership), and intergenerational transfers also play an important role in the wealth gap (Blau and Graham 1990). As a result, current nativity gaps will have a long-term impact on variation in wealth among blacks. Without understanding nativity differences in black wealth, policies meant to close the wealth gap or increase minority homeownership may not have the intended effects.

In addition to its implications on black wealth estimates, nativity based variation in house value also reflects, at least in part, differences in neighborhood composition/quality. Most studies investigating neighborhood composition of blacks focus on racial segregation, assuming that this is related to the socioeconomic characteristics of the neighborhood. For U.S.-born blacks, this is true. However, because black immigrants form ethnic enclaves and African-born blacks are so highly educated, this pattern may not adequately describe the neighborhood composition of foreign-born blacks. Chapter three investigates differences in the segregation patterns of U.S. and foreign-born blacks in terms of race and socioeconomic characteristics of the neighborhood. Regardless of an individual household's income, neighborhood quality can independently affect the quality of life for the foreign-born as well as the assimilation patterns of the second generation. Although foreign-born blacks earn lower wages, they may live in better neighborhoods than U.S.-born blacks. This means that foreign-born blacks may have access to better public services and school systems for their children, giving their children an advantage relative to U.S.-born blacks. Given the importance of school quality on student outcomes, over time, we may see a widening of the gap between blacks whose parents have been here for generations and those who have a more immediate immigrant ancestor.

Overall, this dissertation investigates the socioeconomic attainment of black immigrants in order to understand both the current and long term implications of their wage and housing market outcomes. Foreign-born blacks' ability to navigate the labor and housing markets has implications not only on the assimilation patterns of the foreign-born, but also on that of the second generation. The results provide a basis for future research on this group as well as public policy debates on race and immigration in the United States.

Chapter 1: Do Black Immigrants Earn More than the U.S.-born? New Evidence on an Old Question

Introduction

Although foreign-born blacks comprise a small portion of the United States population, the number of black immigrants has grown rapidly in recent decades, increasing from 5% of all blacks in 1990 to nearly 10% in 2007[2]. Black immigrant population growth accounts for 17% of the growth of the U.S. black population in the 1990s and at least 20% between 2000 and 2006 (U.S. Census Bureau 2006; Logan 2007). Given the recent rapid increase of this population, and historic and cultural differences from the U.S.-born population, black immigrants are complicating what it means to be black in the United States. Black immigrants' dual minority status may also be changing how blacks are treated in the labor market.

One of the most debated issues in the black immigrant literature is whether foreign-born blacks are more economically successful than the U.S.-born (Kalmijn 1996). Sowell's (1979) analysis of nativity differences in wages among blacks in the United States found a Caribbean immigrant advantage that he ascribed to cultural differences between U.S. and Caribbean-born blacks stemming from slavery experiences. Sowell hypothesized that because West Indian slaves were allowed to sell the surplus from food grown for their own consumption they had generations more experience with receiving rewards for individual effort and consequently developed a culture of self-reliance. This culture was then solidified by better post-emancipation job opportunities for blacks in the Caribbean than in the United States. According to Sowell, these slavery and post-emancipation experiences had enduring effects on the cultures of Caribbean and U.S.-born blacks that explains the differences in wages.

Sowell's work led to a number of studies of black immigrants' labor market outcomes in the United States, some of which challenged the accuracy of the black immigrant wage advantage

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[2] Author's calculations, 1990 United States Census, 2005-2007 pooled American Community Survey (Ruggles et al. 2010)

(Butcher 1994; Model 1995) and the theory of a cultural advantage (James 2002). Research since Sowell yields no consensus on whether all black immigrants earn higher wages than U.S.-born blacks. Although some studies do find an immigrant wage advantage (Kalmijn 1996; Dodoo 1997), these studies disagree on the factors contributing to higher immigrant wages. Previous research has offered a variety of explanations for wage differences between U.S. and foreign-born blacks ranging from culture (Sowell 1979; Dodoo 1997; Corra and Kimuna 2009) to selective immigration (Butcher 1994; Kalmijn 1996; Kollehlon and Eule 2003; Corra and Kimuna 2009). However, the impact of selection into full-time employment and the geographic concentration of immigrant groups have yet to be considered despite their potentially large impact on wages by immigrant status.

This paper uses the 1990 and 2000 censuses and 2005-2007 pooled American Community Survey (ACS) to examine the earnings of black immigrants relative to U.S.-born blacks over time. Unlike previous research, I analyze wage differences among blacks after controlling for the effects of selection into full-time employment and also distinguish between both African and Caribbean immigrants by their "culture," measured by common colonial histories. I investigate three time periods to determine: 1) whether black immigrant wage advantages found in previous research using 1990 and 2000 census data is due to misspecification of wage equations and 2) whether the relationship between nativity and wages among blacks has changed over time.

In addition to the nationwide analyses, I also estimate wage differences in the two largest black immigrant settlement areas, the New York and Miami metropolitan areas, in order to determine more accurately the labor market outcomes of foreign-born blacks relative to U.S.-born blacks in the same labor markets. Though I control for metropolitan area labor market characteristics in the national analyses, this may not adequately capture how living in major immigrant settlement areas affects wages.

The results of these analyses show that incomplete consideration of ethnicity and misspecifications of the wage equation in previous research led to inaccurate findings of an immigrant wage advantage at the national level. The wage results when only major black immigrant settlement areas are included indicate that geographic concentration of immigrants plays the most important role in wage differences among blacks found at the national level.

Background

Previous literature focuses on three main theoretical explanations for the purported earning advantage of black immigrants relative to U.S.-born blacks: cultural distinction theory, discrimination, and selective immigration.

Culture

The role of culture in driving socioeconomic differences across groups has a long and contentious history with respect to comparing U.S. and foreign-born blacks. Sowell was first to set forth the cultural distinction theory which posits that Caribbean-born blacks' have greater economic success and a stronger work ethic than U.S.-born blacks (Sowell 1979). This is due, in part, to favorable socialization in their home country where slave experiences were different from the United States and blacks historically held more influential jobs and had better relations with whites (Sowell 1979). Research since Sowell, does not generally support the cultural distinction theory of black immigrant economic success in the United States. For the cultural argument to be credible, the net hourly earnings of black immigrants would have to be significantly higher than U.S.-born blacks (Kollehlon and Eule 2003), and this is not found consistently in the literature. However, the role of culture on wage differences cannot be determined when it is not accurately or consistently identified. Previous research differentiates Caribbean immigrants by their colonial heritage (British, French, and Other) without doing the same for African immigrants (Model 1995; Darity Jr., Guilkey et al. 1996; Dodoo 1997; Kollehlon and Eule 2003).

Caribbean groups that share a former colonizing country share similar language skills and cultural attributes due to their former colonizer as well as comparable slave experiences in their home counties. Following this framework, black Africans would also be expected to possess cultural values and distinctive experiences that affect their socioeconomic attainment relative to U.S.-born blacks. African-born blacks were not included by Sowell in his framework because of their small population size and, most importantly, because of the general lack of large scale slavery experiences in the home country. Although Africans do not have slavery and post-slavery experiences, they do have historical experiences with whites in positions of power in the home country. In addition, like the Caribbean-born, Africans have been socialized in a society where they are in the racial majority and have a large number of successful black role models. Unlike previous research, this analysis includes Africans in the cultural framework developed by Sowell and expands his definition of culture to include both region of birth and common colonial history.

According to the cultural distinction theory, positive labor market experiences in the home country have an enduring effect on the wage outcomes of immigrants. The theory leads to two alternative empirical predictions. First, Sowell's hypothesis states that Caribbean immigrants earn higher wages because of their culture of self reliance based on slave and post-emancipation experiences. Following this theory, because African immigrants have no slave history, they have a longer history of self-reliance and would therefore earn the highest wages of all three groups, followed by Caribbean immigrants and U.S.-born blacks. Second, previous research finds that Caribbean immigrants of British colonial heritage are the only Caribbean group to earn higher wages than U.S.-born blacks due to their English ability and more familiarity with U.S.-like institutions (Kalmijn 1996; Corra and Kimuna 2009). Given these findings, African and Caribbean immigrants of British colonial heritage would earn the highest wages of all black immigrants.

Discrimination

Numerous studies investigating the labor market experiences of blacks in the United States find that they experience discrimination in the U.S. labor market (Foner 1985; Steele 1997; Aronson,

Lustina et al. 1999; Thomas 2003) due to employers' negative beliefs about this group. Negative perceptions of blacks leads to a reluctance to hire them even when employers have positive views of their own experiences employing blacks (Thomas 2003). If hired, negative stereotypes about a group's abilities and potential can actually undermine the performance of members of that group (Steele 1997; Aronson, Lustina et al. 1999) leading to lower average wages for blacks.

Experiences with discrimination however, are not the same for all blacks. White employers frequently report different perceptions of U.S. and Caribbean-born blacks. Employers have a favorable perception of immigrants as having a superior work ethic, especially compared to U.S.-born blacks (Foner 1985) and state that Caribbean immigrants are ambitious and hard working while U.S.-born blacks are troublesome (Deaux, Bikmen et al. 2007). However, when ethnicity is more finely considered, at least one study finds that Caribbean immigrants of British colonial heritage are the only Caribbean group to earn more than U.S.-born blacks (Kalmijn 1996). Kalmijn attributes this wage advantage to greater English ability along with a combination of greater immigration selectivity and better treatment by whites due to their more favorably looked upon British heritage. This finding indicates that colonial heritage is not only related to culture which, according to cultural distinction theory predicts the skills and preferences immigrants *bring* to the labor market, but also to how immigrants are *received* in their new country. African immigrants earn significantly lower wages than U.S.-born blacks (Butcher 1994; Dodoo 1997; Corra and Kimuna 2009) and Caribbean immigrants in the aggregate (Butcher 1994; Dodoo 1997). However Africans from former British colonies, like their Caribbean counterparts, may also earn higher wages than U.S.-born blacks and Africans from former French or Other colonies due to more favorable treatment by employers or skills.

Differential experiences with discrimination leads to two predictions for wage outcomes. First, if employers' perceptions of Caribbean-born blacks extend to African-born blacks, all black immigrants will earn higher wages than U.S.-born blacks. Second, if colonial heritage is related to employers' perception of immigrants, African and Caribbean immigrants from former British

colonies will earn the highest wages, followed by U.S.-born blacks, then French and Other immigrants, even after controlling for English ability.

Selective Immigration

Although it is nearly impossible to determine the size of the effect of selective immigration, nearly all research acknowledges the possible effect of selective immigration on wages. Selective immigration theory posits that economically motivated immigrants are self selected for traits that positively influence labor market outcomes (Model 1995; Corra and Kimuna 2009). Caribbean and African-born blacks have followed very different avenues to the U.S. and differences in visa admissions may have led to differences between Caribbean and African-born blacks in terms of immigration selection (Kent 2007). Obviously, no similar selection occurs for the U.S.-born population.

The majority of African immigrants come to the United States through the diversity visa (DV) program or as refugees/asylees. The diversity visa is primarily responsible for the increase in skilled Africans' migration to the United States (Lobo 2001). African immigrants from former British colonies may be most positively selected for economic success because they are so highly represented among those who enter the United States on a diversity visa: three of the top five African DV sending countries are from former British colonies (Bureau of Consular Affairs 2010).

While refugees are not selected for immigration based on their human or economic capital, after 10-15 years in the United States, refugees earn significantly more than economic immigrants who have been in the United States for the same amount of time. This is mostly due to greater annual hours worked, which is associated with refugees' higher rates of human capital accumulation relative to economically motivated immigrants (Cortes 2004). Refugees may be able to accumulate human capital more quickly and at higher rates than other immigrant groups because, unlike other immigrants, they are eligible for benefits such as vocational training, day care, and transport upon arrival in the U.S. (Administration for Children and Families 2010).

Refugee benefits may have a larger effect on women's than men's wages for two reasons. Without these benefits, African women may have been more likely to utilize the family investment strategy in order to finance their husband's U.S. human capital investment. Family investment is a labor market strategy where women initially take jobs with little advancement opportunity in order to finance their husbands' human capital investments but then reduce their hours as their husbands earn more (Baker and Benjamin 1997). In addition, most African women come from countries with low female labor force participation rates indicating that they are primarily responsible for childcare. However, refugee benefits could allow these women to invest in their own human capital at lower cost while still having childcare. They may also be more likely to work in jobs that may have lower initial wages but have opportunity for future growth.

Among foreign-born blacks, Caribbean immigrants are less likely than African-born blacks to immigrate to the United States on Diversity Visas or as refugees (United States Department of Homeland Security 2011). Caribbean immigrants primarily enter the country through family reunification, a visa group with skills and earnings levels significantly lower than employment based immigrants (Jasso and Rosenzweig 1995). Consequently, compared to African immigrants, Caribbean immigrants are less positively selected for economic success in the United States. Variation in the socioeconomic characteristics of immigrants by visa category indicates that the human capital compositions of African and Caribbean immigrants to the United States are quite different. African immigrants are expected to earn higher wages than both the U.S.-born and Caribbean immigrants because they are selected differently, that is, they are disproportionately on Diversity Visas or refugee admissions, and not because of any cultural differences.

Selection into Full-Time Employment

Prior research has focused on immigration selection, discrimination and culture as explanations for the purported immigrant wage advantage among blacks in the U.S. Although previous work discusses selection issues in analyses of wage differences among blacks, it is selection into

immigration, not selection of the U.S. and foreign-born into full-time employment that is considered. I propose, however, that non-random selection into full-time employment also plays a significant role in the wage differences among blacks by immigration status.

Because pay gaps can be the result of hourly wage differences for part-time work regardless of occupational category (Blau and Kahn 2000; Bardasi and Gornick 2008), previous research differentiates between full and part-time workers when examining wage differentials. However, simply controlling for full-time employment does not capture how individuals select *into* full-time work. Individuals self-select into full or part-time employment based on their characteristics and earning opportunities; therefore when wage regressions are restricted to full-time employees, the results are not representative of the larger population (Puhani 2000), in this case, all employed U.S. and foreign-born black earners. Selection into full-time employment is problematic for wage regression analyses because people are included non-randomly and potentially differently by nativity. This sample selection leads to inconsistent estimates of the effects of independent variables as well as biased inferences about the social processes (Winship and Mare 1992) determining wages. In addition, it is difficult to determine whether the biased regression results over or understate the true effects (Berk 1983).

I posit that there are unobserved characteristics that differentially affect the decision to work full-time for U.S. and foreign-born blacks that are also correlated with unobserved characteristics affecting their wages. For example, foreign-born women may be less likely than U.S.-born women to self-select into full-time work because their family investment strategies differ. Immigrant women may also be less likely than the U.S.-born to self-select into full-time work because of cultural norms regarding women in the labor force (Reimers 1985; Antecol 2000).

With the exception of Jamaica, women from major African and Caribbean sending countries come from countries with large gender gaps in labor force participation (Antecol 2000). African and Caribbean women are less likely to work full-time than U.S.-born black women, resulting in a

greater "positive" selection for these groups. Cultural values regarding women in the workforce may also affect women's motivation for work. Women from countries with low labor force participation rates may not be expected to contribute to the household income and therefore less likely to work full-time.

Foreign-born women who choose to work full-time may differ substantially from those who do not, and U.S.-born women who do, in ways that are not captured by measurable characteristics. These differences imply a greater selection of the "most able" immigrant population and lead to overestimation of their wages relative to the U.S.-born. Cultural values regarding women in the workforce may also affect likelihood of self-selection into full-time employment among men. Married men from countries with large gender gaps in labor force participation may be more likely to work full-time because they are expected to provide single-handedly for the family. Given U.S.-born black women's long history of participation in the labor market, this is less likely for U.S.-born black men.

There are consistent differences in U.S. and foreign-born blacks' full-time employment (Dodoo 1997; Kposowa 2002; Kollehlon and Eule 2003), yet studies directly compare the earnings of these groups without controlling for differences in selection into full-time employment. Failing to do so may have led researchers to find immigrant wage advantages where they do not exist. This is an especially large concern with the recent inclusion of women in black immigrant wage analyses. Immigrant and U.S.-born women have very different propensities for full-time employment (Dustmann and Schmidt 2000) and women who work part time earn less than full-time workers regardless of occupation (Bardasi and Gornick 2008). Controlling for selection into full-time employment yields more accurate estimates of wage differences between groups.

Geographic Concentration

Another unexplored source of differences between U.S. and foreign-born blacks is geographic concentration. While just over three quarters of U.S.-born blacks live in metropolitan areas,

nearly all (97%) of black immigrants live in metropolitan areas[3]. In addition, black immigrants are

highly concentrated in just a few metropolitan areas relative to U.S.-born blacks: nearly 1/3 of all

black immigrants live in their top two settlement areas (New York and Miami) while the same is

true for just under 5% of U.S.-born blacks[4]. Due to foreign-born blacks' concentration in these

high wage and cost of living areas relative to U.S.-born blacks, black immigrant wages may be

artificially inflated relative to the U.S.-born in national analyses.

Although the higher nominal wages are due to their concentration in relatively high cost of living

metropolitan areas, immigrants may still benefit from living in New York and Miami's large

immigrant communities. Ethnic enclaves aid immigrants in economic adjustment by providing

networks of social support and helping them learn new skills (Boyd 1989). Living in New York

and Miami may also allow immigrants to leverage their ethnic specific contacts into better jobs;

there is some evidence that immigrants working for a co-ethnic boss earn higher wages than

those working for whites (Waldinger and Der-Martirosian 2001; Portes and Rumbaut 2006). The

labor market advantages provided by immigrant communities are crucial for those with low levels

of English ability or skills (Sanders and Nee 1987) who may be better able to find full-time

employment within an ethnic enclave than they would in other areas of the United States.

Overall, the black immigrant wage advantage found in previous national analyses may be an

artifact arising from their concentration in New York and Miami where wages and the cost of living

are higher, a real effect because low skilled immigrants are better able to find full-time

employment, or some combination of the two. In order to determine whether location plays a role

in wage differences among blacks, I analyze wage differences in New York and Miami in addition

to the nationwide analysis. I will be able to distinguish between the effect of living in a high wage

area and a real wage effect of geographic concentration by comparing the selection equation

outcomes of the national and major immigrant settlement area analyses. If the nativity wage

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[3] Author's calculations, 2005-2007 pooled American Community Survey ibid.
[4] Author's calculations, 2005-2007 pooled American Community Survey ibid.

difference is lower in Miami and New York, this is evidence of an ethnic enclave effect and if nativity differences are higher, geographic concentration plays a role in wages that is not captured in national data.

Data and Methods

To determine wage differences among blacks in the United States, I use data from the 5% Public Use Micro Samples (PUMS) of the 1990 and 2000 United States census and the pooled 2005-2007 ACS (Ruggles, Alexander et al 2010). I include black[5] male and female civilians age 25 to 59 who are either non-Hispanic and born in the United States or foreign-born[6] non-Hispanic Caribbeans or sub-Saharan Africans who live in metropolitan areas and are not self-employed. The self-employed have been excluded from this analysis because, though the self-employed also work full-time, their wages include returns to capital investments. I also exclude those who are currently in school. The selection criteria result in a sample of 1,296,243 men and women.

Statistical Models

To analyze hourly wage differentials of workers after considering nativity and selection effects, I use an ordinary least squares regression (OLS) as well as a maximum likelihood estimator (MLE) with a Heckman correction for selection into full-time employment. The Heckman correction requires two steps, the first of which is a selection equation determining the probability of an individual's full-time employment estimated from a probit regression with the equation:

$$I_i = Y_i\alpha + \mu_i$$

I_i is a dummy variable indicating whether an individual is employed full-time; Yi represents the characteristics that influence an individual's selection into full-time employment: metro/state level

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[5] Although individuals have been able to choose a multiracial identity in census and ACS surveys since 2000, I use the "racesingd" variable to define race in this analysis. "Racesingd" is a bridged race variable that uses the modified regression method to determine the probability of a single race response for each multiple race respondent then assigns a single race to each individual based on these probabilities (Liebler and Halpern-Manners (2008).

[6] Analyses were also conducted excluding 1.5 generation immigrants (not shown). Limiting the foreign-born population in this way made very little, if any, differences in the results. Because there is no difference, all foreign-born are included in this analysis.

unemployment rate in each year (state level unemployment rates were used when metro level rates were unavailable), a dummy variable indicating whether metro or state rates were used in the analysis, female labor force participation in the home country, unearned household income and the variables included in the second stage wage equation (geographic, individual and household, and human capital characteristics). Local unemployment rates, female labor force participation rates in the home country, and household income earned by other household members are assumed to determine full-time employment but not wages directly.

While U.S.-born black women have a long history in the labor force, most black immigrants come from countries with low female labor force participation (LFP) rates, which are associated with lower immigrant women's LFP in the United States (Antecol 2000). Female labor force participation in the home country may affect immigrants' motivation for working in the United States. Female labor force participation (FLFP) rates for the home countries of the foreign-born are from the ILO Yearbook of Labour Statistics (International Labour Organization 2012) and female labor force participation rates for U.S.-born blacks are from the Bureau of Labor Statistics (Bureau of Labor Statistics 2011). FLFP is not available for all countries in all years; when data are not available the average FLFP of the region is used. Unemployment rates, female LFP in the home country, and unearned household income are the characteristics included in the first stage probit equation predicting selection, but not the second stage wage equation. μ_i is a standard normal variate and α, a vector of parameters.

A consistent estimator of the α vector from the selection equation ($\alpha\prime$) is used to evaluate the expected wage under the assumption that the error terms in both the selection and wage equations have a bivariate normal distribution. The second stage wage equation is:

$$ln(w_i) = X_i\beta + \sigma_{eu}\lambda_i$$

w_i (hourly wage) is computed as the yearly income from wages divided by the number of weeks worked per year multiplied by the usual number of hours worked per week; β is a vector of the

parameters to be estimated; σ_{eu} is the covariance between the error terms in the wage equation and the full-time employment equation and λ_i is the inverse Mills' ratio. The inverse Mills ratio accounts for the wage effects of selection into full-time employment. The significance of the Mills' lambda in the wage equation indicates that controlling for selection into full-time employment has a significant effect on wages.

The main independent variable of interest is region of birth with black immigrants divided into groups based on colonial heritage. Both sub-Saharan African and Caribbean immigrants are divided into categories of British, French, and all other colonial backgrounds. Among the African-born, the "other" colonial background category is predominantly comprised of Ethiopia, Liberia, and countries with Italian, multiple, or unspecified colonial heritages. The majority of the "other" Caribbean immigrant group are countries with Dutch or unspecified colonial heritage. In addition to ethnic origin, I include region of the U.S. (northeast, midwest, south, and west), city population, and city population^2 to control for variations in wages that are related to cost of living differences.

I control for household factors that affect an individual's selection into the labor force and wages by including marital status and the number of own children present in the household. I also include number of young children (under five) in the household. In prior studies, each child is associated with seven fewer weeks of employment per year among women (England 2005) and the presence of preschool children is also negatively associated with the labor force participation of immigrant women (Duleep and Sanders 1993).

In addition to individual and household factors, human capital characteristics also affect wages and two of the most important investments in human capital are work experience and education. Potential labor force experience is measured here using the Mincer experience measure (age minus years of education minus six) and education is defined by level of educational attainment (four or more years of college, one to three years of college, high school diploma/GED, and less than a high school diploma).

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Though education is an important factor in labor market outcomes, level of education is not the only aspect of educational attainment that plays a role in earnings. For the foreign-born, country of education may affect the actual or perceived quality of education. Employers may be uncertain about the value of foreign degrees, making the possession of a domestic degree an advantage in the labor market. Foreign education may also be of lower quality or a poorer match to the U.S. economy.

Census respondents are not asked where they completed their education; therefore I estimate whether education was completed in the United States by calculating the age at immigration (age-years in the United States) and comparing that to the estimated age at which each individual completed their education. Age of education is estimated by adding six to the number of years of schooling (assuming that an individual will complete kindergarten at age six). Number of years of education is measured as grade level for those with a high school education or less and 12 plus number of years of college for those with at least some college education. Masters degree holders are defined as having 18 years of education, professional degree holders as 19 years of education, and PhD holders as 22 years of education. If immigration age is greater than the age of education completion, I assume that education was completed outside of the United States.

Another factor that may affect immigrants' likelihood of full-time employment as well as their wages is English ability. Because the English ability of foreign-born blacks is generally very high, it is included as a binary variable coded as one for those who are both foreign-born and do not speak English very well. English ability, along with domestic work experience, generally increases with years in the United States. I therefore include the number of years foreign-born individuals have lived in the United States.

Results

Descriptive Statistics

Table one provides descriptive statistics for demographic and human capital characteristics for African and Caribbean-born blacks. Africans are younger than U.S.-born blacks in all three years with age differences decreasing over time. Though Africans are younger than U.S.-born blacks, a larger proportion of African (and Caribbean) immigrants are married and a larger proportion has children. Though African and Caribbean immigrants' family characteristics are very similar, there is wide variation in level of educational attainment, one of the most important factors in labor market outcomes. African men and women have the highest level of educational attainment of all groups in all three time periods; nearly 2/3 of men and over 1/3 of women have at least a college degree compared to 10-15% of U.S. and Caribbean-born blacks.

Table 1. Demographic and Human Capital Characteristics: Adults age 24-59, Not in School

	U.S.-born black	African			Caribbean		
		British	French	Other	British	French	Other
1990							
Men (N)	*203,007*	*1,257*	*108*	*739*	*4,678*	*2,319*	*242*
Mean Age	39.0	36.0	36.0	36.0	40.0	39.0	41.0
Mean Family Size	3.2	3.0	2.8	2.8	3.4	3.7	3.2
% with Children	42.6	51.3	35.2	41.5	53.5	52.4	50.4
% Married	50.1	64.3	64.8	55.5	65.6	59.2	58.3
% 4+ Years College	10.1	66.4	52.8	39.2	15.0	11.8	17.8
Women (N)	*253,548*	*680*	*48*	*557*	*5,824*	*2,305*	*259*
Mean Age	39.0	35.0	33.0	35.0	40.0	39.0	39.0
Mean Family Size	3.5	3.7	3.4	3.4	3.4	3.9	3.3
% with Children	67.2	68.1	54.2	58.0	65.2	67.5	66.4
% Married	40.7	71.5	60.4	59.4	51.8	55.4	48.7
% 4+ Years College	12.0	39.7	33.3	25.9	15.9	10.2	15.8
2000							
Men (N)	*264,544*	*3,450*	*274*	*2,861*	*8,810*	*5,040*	*339*
Mean Age	41.0	40.0	38.0	39.0	42.0	42.0	43.0
Mean Family Size	2.7	3.1	2.9	3.0	3.2	3.7	3.0
% with Children	37.1	49.3	40.2	41.7	50.7	54.9	46.0
% Married	48.0	66.4	57.7	58.8	60.8	64.0	59.6
% 4+ Years College	11.2	56.8	46.0	31.8	15.1	14.1	15.3
Women (N)	*314,870*	*2,671*	*162*	*2,579*	*11,473*	*5,566*	*416*
Mean Age	41.0	39.0	36.0	37.0	42.0	41.0	42.0
Mean Family Size	3.1	3.5	3.4	3.5	3.3	4.0	3.2
% with Children	60.2	63.3	58.6	60.5	63.7	70.8	60.1
% Married	37.7	64.9	58.6	56.5	48.2	55.3	45.0
% 4+ Years College	14.8	37.7	45.7	20.7	20.0	11.6	18.0
2007							
Men (N)	*140,970*	*2,633*	*274*	*2,412*	*5,085*	*2,875*	*335*
Mean Age	43.0	43.0	39.0	41.0	43.0	43.0	45.0
Mean Family Size	2.6	3.1	2.8	3.2	3.0	3.6	3.2
% with Children	33.3	53.3	44.5	48.4	47.7	55.3	49.9
% Married	44.7	69.6	67.2	65.4	61.0	65.5	62.1
% 4+ Years College	14.2	58.3	50.7	35.4	19.7	19.0	23.0
Women (N)	*171,868*	*2,223*	*192*	*2,499*	*6,944*	*3,367*	*454*
Mean Age	43.0	40.0	37.0	39.0	44.0	43.0	45.0
Mean Family Size	2.8	3.4	3.6	3.6	3.1	3.7	3.0
% with Children	54.5	66.0	67.7	64.8	60.9	69.9	54.9
% Married	36.1	65.5	71.4	63.1	48.6	57.6	45.8
% 4+ Years College	19.5	43.2	36.5	20.9	26.0	17.6	30.6

Data Sources: 1990 and 2000 census (5% sample), 2005-2007 pooled American Community Survey (5%)

Immigration, occupation, and wage characteristics are presented in Tables two and three for Caribbean and African immigrants respectively. The data in Table two reflect Caribbean-born blacks' longer history of immigration to the U.S. in that Caribbean immigrants have lived in the U.S. longer than the African-born and consequently have higher citizenship rates. Length of time in the U.S. combined with English use in the home country may explain the greater English ability of British Caribbean blacks relative to British-Africans. Although African and Caribbean-born blacks of British heritage both have greater levels of English ability than their regional counterparts, British Caribbean immigrants have the greatest levels of English ability of all groups. British Africans of both genders mostly earn higher wages than U.S.-born blacks, French Africans, and Africans of Other colonial backgrounds. Among Caribbean immigrants, Caribbean immigrants from other than British or French former colonies earn the highest wages in 1990 and 2007 for men and in all years for women.

Table 2. Immigration, Occupation and Wage Characteristics: Caribbean Men and Women Age 24-59, Not in School

	U.S.-born black		British Caribbean		French Caribbean		Other Caribbean	
	Men	*Women*	*Men*	*Women*	*Men*	*Women*	*Men*	*Women*
1990								
Years in the U.S. (Mean)	n/a	n/a	12.8	13.0	10.8	11.1	15.6	15.4
% Citizen	n/a	n/a	38.9	41.1	28.5	30.0	54.1	47.9
% Educated in the U.S.	n/a	n/a	35.4	32.8	30.9	35.7	31.1	42.9
% Speaks English very well+	n/a	n/a	98.1	98.9	44.8	41.6	85.5	90.7
% Employed Full Time	56.7	45.3	66.5	58.6	62.7	48.8	69.4	58.3
Mean Hourly Wages of FT Employees in 1999 Dollars	15.10	12.55	17.21	14.84	13.58	11.62	17.97	15.49
2000								
Years in the U.S. (Mean)	n/a	n/a	17.6	17.9	16.1	16.0	19.7	20.3
% Citizen	n/a	n/a	51.5	58.7	47.0	50.3	56.6	56.0
% Educated in the U.S.	n/a	n/a	37.2	39.6	27.9	28.0	38.4	45.5
% Speaks English very well+	n/a	n/a	98.0	98.7	50.8	45.7	87.6	91.4
% Employed Full Time	54.9	49.7	66.1	57.8	63.8	51.3	61.4	51.9
Mean Hourly Wages of FT Employees in 1999 Dollars	15.82	13.78	17.52	15.94	14.59	12.72	17.20	17.73
2007								
Years in the U.S. (Mean)	n/a	n/a	20.2	20.0	18.6	18.2	22.8	24.3
% Citizen	n/a	n/a	57.2	62.8	52.7	55.0	58.5	69.8
% Educated in the U.S.	n/a	n/a	41.5	41.7	32.1	31.8	47.0	49.7
% Speaks English very well+	n/a	n/a	98.6	98.9	49.8	46.8	94.3	96.0
% Employed Full Time	52.8	49.8	69.5	60.6	70.5	56.2	68.1	60.8
Mean Hourly Wages of FT Employees in 1999 Dollars	15.71	14.00	17.31	15.9	14.11	12.82	18.53	17.0

Data Sources: 1990 and 2000 census (5% sample), 2005-2007 pooled American Community Survey (5%)

Table 3. Immigration, Occupation and Wage Characteristics: African Men and Women Age 24-59, Not in School

	U.S.-born black		British African		French African		Other African	
	Men	*Women*	*Men*	*Women*	*Men*	*Women*	*Men*	*Women*
1990								
Years in the U.S. (Mean)	n/a	n/a	9.9	8.3	7.3	5.6	8.9	8.6
% Citizen	n/a	n/a	25.1	17.9	11.1	12.5	30.2	24.6
% Educated in the U.S.	n/a	n/a	37.2	28.0	27.7	31.8	28.8	39.2
% Speaks English very well+	n/a	n/a	88.9	81.8	59.3	58.3	72.8	67.7
% Employed Full Time	56.7	45.3	65.8	43.5	64.8	43.8	64.7	43.8
Mean Hourly Wages of FT Employees in 1999 Dollars	15.10	12.55	17.08	13.49	17.30	13.43	15.52	12.61
2000								
Years in the U.S. (Mean)	n/a	n/a	13.0	10.9	10.1	9.3	11.4	10.9
% Citizen	n/a	n/a	40.8	33.7	23.4	25.3	35.2	32.9
% Educated in the U.S.	n/a	n/a	31.7	25.2	23.1	26.6	24.1	24.0
% Speaks English very well+	n/a	n/a	88.2	82.0	62.4	64.8	64.6	59.0
% Employed Full Time	54.9	49.7	67.9	49.1	60.6	47.5	62.6	46.2
Mean Hourly Wages of FT Employees in 1999 Dollars	15.82	13.78	19.52	15.99	16.57	14.59	15.74	13.3
2007								
Years in the U.S. (Mean)	n/a	n/a	14.2	11.9	11.4	9.4	12.5	12.0
% Citizen	n/a	n/a	47.4	44.8	23.4	24.0	41.3	40.1
% Educated in the U.S.	n/a	n/a	29.1	23.6	22.5	18.0	24.0	22.5
% Speaks English very well+	n/a	n/a	82.7	79.0	63.5	56.3	61.7	53.9
% Employed Full Time	52.8	49.8	71.9	53.0	62.4	35.4	67.9	48.0
Mean Hourly Wages of FT Employees in 1999 Dollars	15.71	14.00	18.54	16.12	17.20	18.31	15.64	13.17

Data Sources: 1990 and 2000 census (5% sample), 2005-2007 pooled American Community Survey (5%)

Regression Analyses

OLS Regression

Tables four and five present the OLS model of wages and the MLE with Heckman correction for selection into full-time employment for men and women respectively. I include OLS estimates to show the effects of correcting for the selection bias of the wage regression. I also use the definition of ethnicity employed in previous research (All Africans combined and Caribbean

immigrants divided by colonial heritage) to distinguish the effects of selection into full-time

employment from the effects of differences in ethnicity definitions in the Appendix.

Table 4. Effect of Selection and Ethnicity on the Natural Log of Hourly Wages (Men, Not in School, 24-59)

	Ordinary Least Squares Regression			MLE with Heckman Correction		
	1990	2000	2007	1990	2000	2007
Ethnicity (U.S. black)						
British African	-0.15***	-0.06**	-0.12***	-0.08**	-0.02	-0.05*
French African	-0.06	-0.09*	-0.09	-0.05	-0.05	0.03
Other African	-0.12***	-0.10***	-0.13***	-0.10**	-0.07**	-0.08***
British Caribbean	-0.03	-0.001	0.0002	-0.05*	0.01	0.01
French Caribbean	-0.12***	-0.11***	-0.10***	-0.14***	-0.09***	-0.08**
Other Caribbean	-0.04	-0.03	-0.03	-0.07	-0.01	-0.01
Number of Children	0.01***	0.01**	0.01***	-0.001	-0.003*	-0.001
Number of Children<5	-0.02***	-0.01*	-0.001	-0.01**	-0.004	0.01
Marital Status (Married, Spouse Present)						
Married, Spouse Absent	-0.23***	-0.17***	-0.14***	-0.02	-0.07***	-0.02
Separated	-0.16***	-0.15***	-0.14***	0.01	-0.10***	-0.02
Divorced	-0.12***	-0.12***	-0.10***	0.02*	-0.08***	0.01
Widowed	-0.13***	-0.16***	-0.11***	0.05*	-0.09***	0.03
Never Married/Single	-0.20***	-0.17***	-0.18***	0.03***	-0.10***	-0.01
Educational Attainment (4+ Years College)						
1-3 Years College	-0.33***	-0.33***	-0.37***	-0.28***	-0.31***	-0.32***
High School Diploma/GED	-0.49***	-0.49***	-0.53***	-0.36***	-0.44***	-0.42***
<High School Diploma	-0.68***	-0.67***	-0.70***	-0.40***	-0.56***	-0.43***
Work Experience	0.03***	0.02***	0.02***	0.03***	0.02***	0.02***
Work Experience^2	-0.001***	-0.0002***	-0.0004***	-0.0004***	-0.0001***	-0.0002***
Does not speak English at least very well	-0.12***	-0.07***	-0.12***	-0.11***	-0.08***	-0.14***
Foreign Education	-0.07***	-0.10***	-0.12***	-0.05**	-0.12***	-0.16***
Years in the United States	0.01***	0.002**	0.002**	0.003*	0.001	0.0002
Naturalized Citizen	0.05**	0.06***	0.09***	0.04*	0.05***	0.06***
Adjusted R^2	0.22	0.19	0.20	---	---	---
Wald Chi^2	---	---	---	10,426	16,786	7,440
Prob>Chi^2	---	---	---	0	0	0
Rho	---	---	---	-0.90	-0.42	-0.81
Mills Lambda	---	---	---	-0.60***	-0.23***	-0.53***

(1990 N = 99,650; 2000 N = 129,830; 2007 N = 70,809) All models control for: Region, city population, city population^2

Table 5. Effect of Selection and Ethnicity on the Natural Log of Hourly Wages (Women, Not in School, 24-59)

	Ordinary Least Squares Regression			MLE with Heckman Correction		
	1990	2000	2007	1990	2000	2007
Ethnicity (U.S. black)						
British African	-0.16***	-0.05**	-0.09***	-0.04	0.08***	0.05
French African	0.01	-0.12*	0.01	0.05	0.01	0.26***
Other African	-0.14***	-0.11***	-0.15***	-0.04	0.01	-0.02
British Caribbean	-0.08**	-0.06***	-0.08***	-0.10***	0.02	0.02
French Caribbean	-0.17***	-0.13***	-0.15***	-0.17***	-0.05*	-0.06*
Other Caribbean	-0.03	-0.07	-0.12**	-0.04	0.05	0.01
Number of Children	-0.02***	-0.03***	-0.02***	0.004	-0.02***	-0.02***
Number of Children<5	0.01	0.02***	0.01**	0.11***	0.07***	0.08***
Marital Status (Married, Spouse Present)						
Married, Spouse Absent	-0.09***	-0.09***	-0.08***	-0.0004	-0.05***	-0.07***
Separated	-0.11***	-0.09***	-0.13***	-0.06***	-0.07*	-0.11***
Divorced	-0.01**	-0.02***	-0.04***	-0.05***	-0.05***	-0.06***
Widowed	-0.09***	-0.07***	-0.08***	-0.02*	-0.02**	-0.04**
Never Married/Single	-0.07***	-0.08***	-0.10***	0.001	-0.06***	-0.08***
Educational Attainment (4+ Years College)						
1-3 Years College	-0.35***	-0.35***	-0.40***	-0.35***	-0.33***	-0.36***
High School Diploma/GED	-0.56***	-0.54***	-0.60***	-0.43***	-0.44***	-0.49***
<High School Diploma	-0.76***	-0.76***	-0.83***	-0.42***	-0.52***	-0.57***
Work Experience	0.03***	0.02***	0.02***	0.02***	0.02***	0.02***
Work Experience^2	-0.001***	-0.0003***	-0.0004***	-0.0003***	-0.0002***	-0.0002***
Does not speak English at least very well	-0.11***	-0.08***	-0.11***	-0.10**	-0.07***	-0.10***
Foreign Education	-0.04**	-0.06***	-0.06***	-0.06**	-0.12***	-0.13***
Years in the United States	0.01***	0.004***	0.004***	0.003***	-0.00001	-0.0001
Naturalized Citizen	0.04**	0.06***	0.07***	0.03	0.02	0.01
Adjusted R^2	0.24	0.22	0.25	---	---	----
Wald Chi^2	---	---	---	10,831	17,982	10,977
Prob>Chi^2	---	---	---	0	0	0
Rho	---	---	---	-0.93	-0.72	-0.73
Mills Lambda	---	---	---	-0.63***	-0.42***	-0.43***

(1990 N = 101,275; 2000 N = 141,225; 2007 N = 80,897) All models control for: Region, city population, city population^2

Unlike previous work (Model 1995; Kalmijn 1996), the OLS results of Tables four and five indicate

that British Caribbean-born blacks do not have a wage advantage relative to U.S.-born blacks.

This is due to a combination of the variables included and the sampling frame. Kalmijn's work on

black men's wages includes men with a wider age range than what is used here and uses fewer

variables; Kalmijn includes number of children, number of children under five, work experience,

foreign education, years in the U.S., and naturalized citizens. Most importantly, Kalmijn identifies

Caribbean immigrants as those who were born abroad as well as U.S.-born blacks of Caribbean

ancestry. When I run the male regression analysis using Kalmijn's sampling frame and variables

(not shown), my findings match those of Kalmijn. When the 1990 female analysis includes the same variables as Model (1995), like previous work (Model 1995; Corra and Kimuna 2009) British and Other Caribbean women earn wages equivalent to and significantly higher than the U.S.-born in 1990 respectively (not shown). In 2000, the results of the OLS regression without Heckman correction mirror earlier work finding that African women earn significantly lower wages than the U.S.-born as do French Caribbean women (Corra and Kimuna 2009).

MLE with Heckman Correction

The effect of controlling for selection into full-time employment varies among black immigrants. While the Heckman correction has very little effect on the relative wages of Caribbean-born black men, the wage disadvantage of British African men decreases in both size (declining from -0.15 to -0.08) and significance after controlling for selection into full-time employment in 1990 (Table four). The differences between the wage outcomes with and without Heckman correction combined with the highly significant Mills lambda in all three years, shows that controlling for selection into full-time employment plays a significant role in wage differences among blacks at the national level.

In 2000, the Heckman correction again increases African men's wages relative to the U.S.-born, with British and French Africans earning wages equivalent to U.S.-born blacks after correction. Among Caribbean men, French Caribbean immigrants are the only group to earn significantly lower wages than U.S.-born blacks. By 2007, British African men join Other African and French Caribbean men in earning significantly lower wages than U.S.-born black men with a wage disadvantage of 5%, while all other groups continue to earn wages that are not significantly different from U.S.-born blacks[7].

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[7] Although there is some variation over time, there is no significant difference between the wage coefficients of African immigrant groups with the exception of the difference between British and Other Africans in 2000 (Prob>chi^2=0.0135). However, there is a consistent significant difference between the wage coefficients of British and French Caribbean immigrants over time (Prob>chi^2=0.0001, 0.0000, and 0.0000 in 1990, 2000, and 2007 respectively). The same pattern holds true in the women's analysis. In addition, among women, the difference between French and other Caribbean immigrants is significant in 1990 (Prob>chi^2=0.0081) and 2000 (Prob>chi^2=0.0081). All significant differences between ethnic groups are determined by the Wald test.

As in the male analysis, there is ethnic variation in the effect of Heckman correction for selection into full-time employment among women (Table five). Controlling for selection into full-time employment has very little effect on the wages of Caribbean-born women; however, British and African women not from former French or British colonies (Other African) both lose their significant wage disadvantages of 16 and 14% respectively relative to U.S.-born blacks in 1990. Also similar to the male analysis, immigrant wages increase relative to the U.S.-born in 2000 after the Heckman correction. However, while no immigrant men earn wages significantly higher than the U.S.-born, the same is not true of women. British African and French African women earn significantly higher wages than U.S.-born blacks in 2000 and 2007 respectively. In both 2000 and 2007, French Caribbean women are the only immigrants to earn significantly lower wages than U.S.-born blacks with an approximately 5% wage disadvantage.

While the effect of controlling for selection into full-time employment varied by gender, there is one trend over time that is common to both men and women. Although controlling for selection into full-time employment increases African wages relative to the U.S.-born, it has the opposite effect on Caribbean wages in 1990 after selection into full-time employment. In addition to changes over time, I find that when all African immigrants are combined, as they are in previous research (Appendix one), the wages of all African men combined follow the wage trends of British African immigrants fairly closely because they are the majority of African immigrants. When all African women are combined as they are in previous analyses, I find that the African wage advantage observed does not, like the male analysis, follow the pattern of British origin immigrants. Instead, African women's wages are an average of British and Other African immigrants, most likely because British Africans make up a smaller proportion of women than men.

New York and Miami Metropolitan Areas

In order to determine if location and immigrant concentration play a role in wage differences among blacks, I re-estimate the wage regressions using only the two largest black immigrant

settlement areas: the New York and Miami metropolitan areas (defined as PMSAs). I conduct

OLS regression and MLE with Heckman correction for selection into full-time employment in

Tables six (men) and seven (women). All coefficients in the male analysis are negative and the

only coefficients that are not significant in the OLS analysis are French African men in 1990 and

Other Caribbean men in 2000 and 2007. The wage disadvantage of black immigrants ranges

from 25% (Other African) to 15% (British African) in 1990. Yet, after controlling for selection into

full-time employment, all African men earn wages statistically equivalent to the U.S.-born. In

2000 and 2007, however, African immigrant's wage disadvantage decreases slightly relative to

U.S.-born blacks after controlling for selection into full-time employment and retain their

significance. The wage disadvantage of Africans is largest in 2007 with British, French, and

Other Africans earning 26, 38, and 35% lower wages than U.S.-born blacks respectively. The

wages of Caribbean-born men decrease slightly relative to U.S.-born blacks and retain the

significance after controlling for selection into full-time employment.

Table 6. Effect of Selection of Ethnicity on Men's Natural Log of Hourly Wages in NY and MIA

	Ordinary Least Squares Regression			MLE with Heckman Correction		
	1990	2000	2007	1990	2000	2007
Ethnicity (U.S. black)						
British African	-0.22**	-0.22***	-0.28***	-0.14	-0.20***	-0.26***
French African	-0.20	-0.32**	-0.41***	-0.21	-0.32**	-0.38***
Other African	-0.25**	-0.21***	-0.33***	-0.17	-0.18***	-0.35***
British Caribbean	-0.15***	-0.12***	-0.10*	-0.18**	-0.12***	-0.10*
French Caribbean	-0.22***	-0.24***	-0.20***	-0.26***	-0.22***	-0.20***
Other Caribbean	-0.18*	-0.13	-0.11	-0.26*	-0.11	-0.10
Number of Children	0.01	0.01	0.02**	-0.01	-0.01	0.01
Number of Children<5	-0.02	-0.01	-0.01	0.01	-0.01	0.002
Marital Status (Married, Spouse Present)						
Married, Spouse Absent	-0.19***	-0.18***	-0.08*	0.02	-0.10**	-0.04
Separated	-0.17***	-0.09***	-0.06	0.05	-0.01	-0.003
Divorced	-0.12***	-0.05*	-0.04	0.03	0.01	0.004
Widowed	-0.18**	-0.17**	-0.12	0.08	-0.03	-0.04
Never Married/Single	-0.18***	-0.13***	-0.09***	0.08*	-0.04	0.002
Educational Attainment (4+ Years College)						
1-3 Years College	-0.25***	-0.26***	-0.32***	-0.17***	-0.22***	-0.28***
High School Diploma/GED	-0.42***	-0.43***	-0.50***	-0.26***	-0.34***	-0.40***
<High School Diploma	-0.58***	-0.62***	-0.59***	-0.23***	-0.44***	-0.39***
Work Experience	0.02***	0.02***	0.02***	0.02***	0.02***	0.02***
Work Experience Squared	-0.0003***	-0.0002***	-0.0003***	-0.0003***	-0.0002**	-0.0002*
Does not speak English at least very well	-0.12**	-0.07*	-0.13***	-0.11*	-0.07*	-0.16***
Foreign Education	-0.02	-0.06**	-0.06*	-0.02	-0.08***	-0.10**
Years in the United States	0.01***	0.01***	0.004**	0.004	0.004**	0.003*
Naturalized Citizen	0.06*	0.09***	0.09***	0.06	0.07***	0.03
Miami	-0.24***	-0.30***	-0.34***	-0.19***	-0.28***	-0.32***
Adjusted R^2	0.20	0.20	0.22			
Wald Chi^2				335	964	840
Prob>Chi^2				0	0	0
Rho				-1	-0.64	-0.72
Mills Lambda				-0.85***	-0.38***	-0.43***

(1990 N =7,306; 2000 N =9,139; 2007 N = 5,161)

Table 7. Effect of Selection of Ethnicity on Women's Natural Log of Hourly Wages in NY and MIA

	Ordinary Least Squares Regression			MLE with Heckman Correction		
	1990	2000	2007	1990	2000	2007
Ethnicity (U.S. black)						
British African	-0.33**	-0.19***	-0.17**	-0.33***	-0.08	-0.17**
French African	0.05	-0.24	-0.50	0.06	-0.16	-0.45
Other African	-0.24**	-0.25***	-0.22**	-0.24**	-0.14*	-0.21**
British Caribbean	-0.23***	-0.12***	-0.17***	-0.23***	-0.07*	-0.16***
French Caribbean	-0.34***	-0.20***	-0.22***	-0.34***	-0.14***	-0.21***
Other Caribbean	-0.10	-0.10	-0.17**	-0.10	-0.05	-0.16**
Number of Children	-0.02***	-0.02***	-0.01**	-0.01	-0.02**	-0.01*
Number of Children<5	-0.001	0.01	0.02	0.002	0.06**	0.02
Marital Status (Married, Spouse Present)						
Married, Spouse Absent	-0.14***	-0.12***	-0.06*	-0.13***	-0.08**	-0.06*
Separated	-0.08***	-0.07***	-0.11***	-0.08***	-0.05*	-0.11***
Divorced	-0.0001	0.002	0.01	-0.002	-0.01	0.01
Widowed	0.06**	-0.03	0.03	-0.06**	0.02	0.04
Never Married/Single	-0.09***	-0.07***	-0.07***	-0.08***	-0.05**	-0.07***
Educational Attainment (4+ Years College)						
1-3 Years College	-0.27***	-0.30***	-0.34***	-0.27***	-0.26***	-0.34***
High School Diploma/GED	-0.50***	-0.52***	-0.59***	-0.49***	-0.39***	-0.58***
<High School Diploma	-0.70***	-0.73***	-0.80***	-0.69***	-0.47***	-0.78***
Work Experience	0.02***	0.03***	0.02***	0.02***	0.02***	0.02***
Work Experience Squared	-0.0003***	-0.0004***	-0.0004***	-0.0003***	-0.0003***	-0.0004***
Does not speak English at least very well	-0.14***	-0.10***	-0.12***	-0.14***	-0.09**	-0.13***
Foreign Education	0.02	-0.07***	-0.04	0.02	-0.13***	-0.05
Years in the United States	0.01***	0.004***	0.003*	0.01***	-0.002	0.002
Naturalized Citizen	0.07***	0.05**	0.09***	0.07**	0.01	0.08**
Miami	-0.21***	-0.29***	-0.33***	-0.21***	-0.26***	-0.33***
Adjusted R^2	0.28	0.26	0.31			
Wald Chi^2				1307	1275	1806
Prob>Chi^2				0	0	0
Rho				-0.04	-0.67	-0.09
Mills Lambda				-0.02	-0.38***	-0.04

(1990 N =8,640; 2000 N =11,046; 2007 N = 6,587)

Unlike the male OLS analysis where all immigrants earned lower wages than the U.S.-born in all three years, among women, French African women earn wages equivalent to U.S.-born blacks in all three years and this is true of Other Caribbeans in 1990 and 2000. In 2000, after controlling for selection into full-time employment, the wage disadvantage of British Africans becomes non-significant.

Overall, the significance of the differences within African and Caribbean groups more highly significant in these immigrant settlement areas as in the national analysis for both men and women[8]. However, the Mills lambda indicates that selection into full-time employment only has a significant effect on wage differences among men in New York and Miami but makes very little difference in their wage coefficients; wage differences between U.S. and foreign-born blacks are very similar before and after controlling for selection into full-time employment. However, among women, the Mills lambda is only significant in 2000.

Discussion

This paper shows that Sowell's cultural hypothesis has not been adequately tested for three reasons: culture has not been adequately defined and previous research has not addressed ethnic differences in either the decision to work full-time or the ways in which differences in geographic concentration effect wages. The cultural distinction theory posits that foreign-born blacks earn higher wages than U.S.-born blacks due, in part, to home country experiences; however, these experiences vary by colonial heritage. When all Africans are combined I find that African men earn significantly lower wages than U.S.-born blacks in all three years. These findings mask the variability in African men's wages because they largely mirror the wages of British African men. Although these results highlight previously unobserved variability in wages, using colonial heritage as a definition of culture, I do not find evidence for either of the predictions based on the cultural hypothesis. The cultural hypothesis would predict that either all immigrants or immigrants from former British colonies earn higher wages than U.S.-born blacks, but no immigrant group earns consistently higher wages than U.S.-born blacks. British Caribbean

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[8] Among men, only the differences between British Africand Caribbean (Prob>chi²=0.0482) and British and French immigrants (Prob>chi²=0.0001) are significant in 2000. In 2007, the differences between groups are significant for British Africans and Caribbeans (Prob>chi²=0.0005), British Africans and Other Caribbeans (Prob>chi²=0.0367), French African and British Caribbean (Prob>chi²=0.0049) and Other Caribbean (Prob>chi²=0.0174), Other African and British Caribbean (Prob>chi²=0.0000), French Caribbean (Prob>chi²=0.0048), and Other Caribbean (Prob>chi²=0.0023) and between French Caribbean and Other Caribbean (Prob>chi²=0.0027) . Among women, the differences between British Africans and Other Caribbeans (Prob>chi²=0.0093), British and French Caribbean (Prob>chi²=0.0001), British and Other Caribbean (Prob>chi²=0.0368) and French and Other Caribbean (Prob>chi²=0.0002) are significant in 1990. Significant differences between groups decline in 2000 when only the differences between British and French Caribbean (Prob>chi²=0.0031) are significant. By 2007, there are no significant differences between groups of blacks in New York and Miami.

immigrants have the smallest wage disadvantage relative to U.S.-born blacks after controlling for selection into full-time employment and restricting the analysis to New York and Miami. There is no significant wage difference between the wages of British, French, and other Africans, but Caribbean immigrants have a significant wage advantage relative to British Africans. This finding indicates that the cultural hypothesis of a British colonial heritage advantage does not sufficiently explain wage differences either.

Just as previous analyses have not adequately defined culture, they also neglected an important aspect of culture: cultural differences in the decision to work full time based on either family investment strategies or cultural values regarding women in the workforce. Previous analyses found a Caribbean immigrant wage advantage for men and women using 1990 data and that Caribbean women earn wages equivalent to and, African women wages less than, the U.S.-born in 2000. However, after controlling for selection into full-time employment at the national level, I find that these conclusions are incorrect. Caribbean men earn wages equivalent to or lower than the U.S.-born in all three years after correcting for differences in selection into full-time employment. African women earn equivalent or significantly higher wages than U.S.-born blacks in all three years after controlling for selection into full-time employment.

The national level results for men and women indicate that selection into full-time employment is an important predictor of wage differences among blacks. However, the results of analyses in major immigrant settlement areas indicate that geographic concentration also plays an important role. Both the results of the OLS regression and the MLE with Heckman correction in the New York and Miami metropolitan areas are substantially different from the national analysis in all three years: the wage disadvantages of all immigrants are greater in New York and Miami than in the United States as a whole and the differences between U.S. and foreign-born blacks are more highly significant. In addition, selection into full-time employment makes little to no difference when the analysis is limited to New York and Miami indicating that selection into full-time employment does not explain wage differentials between U.S. and foreign-born blacks in these

two metropolitan areas. These results indicate that location plays a large role in wage differences among blacks in the United States.

Geographic concentration is a factor in both wages and selection into full-time employment. Compared to the U.S. as a whole, among men, there is much less difference between U.S. and foreign-born blacks' selection into full-time employment in major immigrant settlement areas (Appendices two-four). With the exception of Other Africans in 2000, all black immigrant men are just as likely as U.S.-born blacks to work full-time in New York and Miami. However in the nation as a whole, African men in particular are significantly less likely to work full-time than the U.S.-born. In the most recent time period, British and French Africans are 27 and 28% less likely than the U.S.-born to work full-time. Black immigrants in New York and Miami may be more likely to work full-time than black immigrants nationwide because they live in areas of high immigrant concentration where even unskilled immigrants or immigrants with low levels of English ability can find full-time work. In addition to the real wage effect of higher likelihood of full-time employment, foreign-born blacks in these metropolitan areas have higher cost of living and correspondingly higher wages. Because of black immigrants' geographic concentration in these high wage areas where they are more likely to work full-time, it is inaccurate to compare the wages of U.S. and foreign-born blacks at the national level as has been done in previous research.

Overall, in contrast to previous research, I find no immigrant wage advantage after controlling for selection into full-time employment. I also find that geographic concentration plays a significant role in wage analyses comparing U.S. and foreign-born blacks. Having addressed differences in selection into full-time employment and geographic concentration in addition to individual and family characteristics, a substantial wage gap between U.S. and foreign-born blacks remains. In 2007, for example, the black immigrant wage disadvantage ranged from 10% (British Caribbean) to 38% (French African). These large remaining wage differences indicate that, rather than having a wage advantage in the labor market, black immigrants may, in fact, be doubly disadvantaged by the combination of their race and nativity. Rather than focusing on cultural

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explanations for wage differences among blacks, future research should investigate why, despite

employers' reported favorable opinions of foreign-born blacks in the work place, black immigrants

are not earning wages that are comparable to U.S.-born blacks.

Chapter 2: The Interaction between Race and Nativity on the Housing Market: Homeownership and House Value of Black Immigrants in the United States

Introduction

Homeownership has long been synonymous with the "American Dream," however for many Americans, homeownership remains elusive (Freeman 2005). Homeownership rates of blacks in the United States have remained 25% lower than those of whites since the 1990s and the house value gap between blacks and whites has increased over time (U.S. Census Bureau 2012). Blacks have one of the lowest homeownership rates of any racial or ethnic group. In fact, there is only one group in the U.S. with homeownership rates lower than that of U.S.-born blacks: the foreign-born (regardless of race) (Coulson 1999). While immigrants' homeownership rates and house values increase with time in the United States, they never quite reach parity with the U.S.-born of the same race (Borjas 2002).

Homeownership is a key source of economic well-being. Homeownership is frequently the largest single investment a household makes (Boehm and Schlottmann 2004) and accounts for nearly half of household wealth in the United States (Gottschalck 2008). Yet for many the importance of homeownership goes beyond its role in wealth accumulation, it is also an indicator of a group's incorporation into mainstream society. Racial disparities in housing market outcomes are associated with racially segmented housing markets that limit blacks' ability to own homes relative to whites (Flippen 2001; Krivo and Kaufman 2004). Differential access to homeownership may then restrict blacks' upward mobility (Alba and Logan 1992). In addition, homeownership is a gauge of immigrant incorporation. For immigrants, homeownership signifies settlement intentions. Immigrants who are unsure whether they will remain in the country wait longer to enter into homeownership (Owusu 1998; Singer 2010) and immigrants with intentions to return to the home country are less likely to own property (Dustmann and Mestres 2010).

Although there are two extensive research literatures on race and nativity disparities in homeownership and their implications, very little focuses on the group representing the

intersection of these two literatures: black immigrants. As blacks, African and Caribbean immigrants contend with a socioeconomic system that sees blacks as a monolithic group (Bashi and McDaniel 1997). Consequently, black immigrants, like U.S.-born blacks, may experience structural barriers that will impede their homeownership and reduce the value of their homes. By contrast, *nativity* gaps in homeownership are largely attributed to immigrants' low skills, income, and education (Borjas 2002; Cortes, Herbert et al. 2007). Therefore like other foreign-born groups, black immigrants' housing market outcomes may also be attributable to having lower English ability and social and economic capital in the United States than the U.S.-born.

The black immigrant housing market experience provides unique insight into the two related issues of racial stratification and immigrant incorporation. Yet, to my knowledge, Haan's (2007) investigation of white and non-white immigrants' housing patterns is the only study of homeownership that specifically discusses foreign-born blacks. Haan finds that black immigrants have the lowest homeownership rates of any immigrant/racial group, suggesting that they experience significant hurdles to homeownership that other non-white immigrants and native-born blacks do not. Black immigrants are assumed to experience the most barriers in the housing market because of their low homeownership rate. However, low homeownership rates are not the only indicator of position in the housing market. Once black immigrants decide to become homeowners, the value of the houses they purchase is another way to measure their ability to navigate the housing market in the United States. While Haan's research provides important insights into the housing market experiences of foreign-born blacks, it does not investigate the value of the homes black immigrants own, nor does it differentiate black immigrants into their composite groups.

There are now a number of studies in the sociological literature asserting that broad racial comparisons mask a great deal of heterogeneity in socioeconomic outcomes within Asians and Hispanics. Recent research highlights national origin differences in housing market outcomes among Asian and Hispanics (Krivo 1995; Coulson 1999; Painter, Gabriel et al. 2001), yet there

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have been no commensurate examinations among foreign-born blacks. Non-Hispanic black immigrants include individuals from Africa and the Caribbean, two groups with very different socioeconomic characteristics. African born-blacks are one of the most highly educated populations in the United States, with higher educational attainment than U.S. and Caribbean-born blacks, and even U.S.-born whites. By contrast, black Caribbean immigrants' educational attainment is closer to that of U.S.-born blacks, however, they may be advantaged relative to African-born blacks in terms of having a large, well-established population in the United States. Caribbean immigrants' population size may aid them in the housing market either through providing information networks or same nativity real estate and lending agents. Because the low homeownership rates of immigrants have been attributed to low skills, income, and education (Borjas 2002; Cortes, Herbert et al. 2007) these and other characteristics of the two groups may lead to variation in housing market outcomes that are masked in investigations which combine all foreign-born blacks into one category.

Despite the considerable socioeconomic variation among blacks, there are no examinations of variability in homeownership and house value among blacks. This analysis uses the 1990 and 2000 censuses and 2005-2007 pooled American Community Survey (ACS) to examine black immigrant homeownership and house value. In doing so, I will investigate whether black immigrants are able to leverage their advantaged human or ethnic community capital attributes into positive housing market outcomes or whether the dampening effects of racial stratification are too great.

Background

General Determinants of Homeownership

Previous research provides a number of explanations for persistent racial disparities in housing outcomes ranging from theories that focus on the socioeconomic characteristics of individual homeowners to those focusing on institutional barriers. The explanations most often used are

based on the microeconomic model of consumer choice, discrimination, and geographic concentration.

In the microeconomic model of consumer choice, households choose to purchase homes according to their needs and preferences after considering their financial resources (Alba and Logan 1992). Homeownership is expected to be positively associated with marriage, income, age, and having children. In the absence of differences in purchasing opportunities and compositional differences between groups, homeownership rates of minorities would be expected to match that of the majority group (Alba and Logan 1992). This logic can be extended to immigrant groups, following assimilation theory, which envisions homeownership as an aspect of social mobility of minority groups (Alba and Logan 1992). In this theory, with time in the United States, immigrants are expected to acquire human capital and acculturate, which should increase their likelihood of homeownership.

The characteristics highlighted in the microeconomic model of consumer choice and assimilation theory are important predictors of homeownership and house value. Yet previous research shows that socio-demographic differences do not fully account for racial disparities in homeownership among the U.S.-born (Rosenbaum 1996; Coulson 1999; Flippen 2001; Freeman 2005). A large body of research on racial differences in homeownership instead points toward processes that stratify groups.

Large unexplained homeownership gaps for blacks suggest that minority households face discrimination in the housing market and there is ample evidence that racial discrimination occurs at various stages of the home purchase process. Blacks are told about fewer available units than whites (Ross and Turner 2005) and are less likely than whites to receive mortgage application approval even after controlling for the applicant's economic characteristics (Kim and Squires 1995; Dawkins 2005). In addition to being rejected for loans more frequently, minorities are made to fill out needless paperwork in order to discourage them from completing applications (Gotham 1998). Consequently, blacks' loan applications are more likely to be withdrawn or never

completed (Coffey and Gocker 1998). When blacks receive mortgage approval, they average less favorable loan terms (Fannie Mae Foundation 1998) paying higher interest rates than whites (Krivo and Kaufman 2004), which reduces their access to capital and results in the purchase of lower priced homes.

Black households experience substantial discrimination by banks preventing potential homebuyers who are financially able to purchase a home from actually doing so (Turner, Ross et al. 2002). Potential minority homebuyers also experience discrimination in the real estate market in that they are disproportionately steered towards certain neighborhoods by real estate agents due to their race (Galster and Godfrey 2005) leading to minority concentrations in some neighborhoods. Research investigating the overlap between minority concentration and social disadvantage finds that this overlap reduces the attractiveness of segregated neighborhoods and reduces housing appreciation (Flippen 2004).

While greater residential segregation by race has been shown to negatively impact black housing market outcomes, black immigrants experience segregation in the United States differently from U.S.-born blacks. Like other immigrants, many foreign-born blacks live in ethnic enclaves. Although ethnic enclaves are a form of residential segregation, recent research shows that they are not always negatively associated with immigrants' housing market outcomes. Immigrants are more successful in attaining homeownership in areas that have larger immigrant concentrations (Painter and Yu 2010). In addition, ethic enclaves are no longer always associated with lower economic resources (Logan, Zhang et al. 2002; Ishizawa and Stevens 2007; Yu and Myers 2007). These results suggest that even as immigrants attain greater economic resources, they choose to reside in co-ethnic neighborhoods (Bobo and Zubrinsky 1996; Logan, Zhang et al. 2002).

Living in ethnic enclaves, foreign-born blacks are segregated from whites in the United States. However, both groups of foreign-born blacks have higher exposure to whites than U.S.-born blacks (Logan 2007) suggesting that black immigrants encounter less discrimination in the

housing market. Fewer discrimination experiences may lead to fewer application rejections for these groups. This may have an indirect effect on application behavior because anticipating being rejected makes individuals less likely to apply for home loans. Foreign-born blacks, then, are expected to be more likely to pursue homeownership and therefore more likely than U.S.-born blacks to own homes and own homes of higher value. Among blacks, African immigrants perceive the least discrimination in the housing market (Benson 2006); if their *perception* of discrimination reflects their *experiences*, Africans will be more likely to own homes and own homes of higher value than both Caribbean and U.S.-born blacks.

Nativity Based Determinants of Homeownership

Prior research has focused on group differences in socioeconomic characteristics and racial stratification on housing market outcomes. However, just as previous work on racial stratification and discrimination on the housing market do not adequately describe the experiences of black immigrants, research does not give enough attention to socioeconomic characteristics specific to immigrant groups. The microeconomic model of consumer choice highlights the importance of financial resources to homeownership disparities, but does not acknowledge the effect of remittances and access to credit on immigrants' housing market outcomes. By contrast, assimilation theory does identify remittances as an important determinant of financial resources immigrants have available for housing market investment due to its exclusive focus on the foreign-born. However assimilation theory assumes that, with time in the United States, immigrant housing market outcomes improve because they become more like the U.S.-born and links to same ethnicity social networks diminish. Consequently, this theory of homeownership does not acknowledge the long-term importance of remittances on available resources for housing market outcomes or the ways in which immigrant social networks can be *beneficial* in the housing market.

Regardless of race, a large proportion of immigrants send remittances to support family in the home country, reducing consumption of goods and services in the United States (Owusu 1998),

but African and Caribbean immigrants may differ in the amount and frequency of remittances. Caribbean-born blacks have a long history of immigration to the United States and the majority now come to the U.S. through family reunification (Kent 2007). As such, it stands to reason that Caribbean-born blacks have more relatives in the United States. Consequently, Caribbean immigrants have fewer relatives in the home country to whom they send remittances than African immigrants. Because they have more immediate family in the U.S., Caribbean-born blacks are also more likely to be able to split remittances with other relatives. Caribbean immigrants, therefore, are likely to spend less of their household income on remittances than African immigrants. Accordingly, Caribbean-born blacks have more available income for investment in the housing market and therefore are at a housing market advantage relative to African immigrants.

Remittances are most often discussed as a means to support family in the home country; however the foreign-born may also send remittances in order to purchase property or for other investments abroad (Singer 2010) if they ultimately intend to return. Although all immigrant groups are comparable in terms of stated intent to return home, the relative proximity and low cost of return migration for Caribbean immigrants make them more likely to do so (Segal 1987). Immigrants with intentions to return to the home country are less likely to own property in the host country (Dustmann and Mestres 2010). Caribbean-born blacks in the United States are more likely than the African-born to have made the decision to live in the U.S. permanently because they have, on average, been in the United States longer and those who intended to return are more likely to have done so. Caribbean immigrants may also have more money available for housing investment if they spend less of their income on remittances. As a result, Caribbean-born blacks would have higher rates of homeownership than the African-born. Lower levels of remittances may also result in higher house values for Caribbean than African immigrants.

Variation among foreign-born blacks in terms of intentions to settle in the United States has implications on more than just remittances. Intentions to live permanently in the United States

also effects immigrants' likelihood of attaining country specific housing market knowledge. Assimilation theory hypothesizes that time in the U.S. is important because immigrants gain knowledge and skills beneficial to them in the American housing market and can establish the credit necessary for a home loan. Thus black immigrants, particularly the African-born, may be less familiar with the workings of the U.S. housing market. Immigrants' lack of knowledge of the housing market may be compounded by having less money for investment in the host country than the U.S.-born due to remittances, and fewer extended family members or friends in the United States to whom they can turn for financial assistance. This combination of characteristics may leave immigrants less able than the U.S.-born to establish the credit necessary to acquire a home loan (Krivo 1995).

Some immigrants may compensate for lack of credit and social capital by using their ethnic specific contacts to their advantage and forming ethnically based systems of capital pooling and rotating credit (Besley, Coate et al. 1993). Immigrants may turn to these informal credit associations if they are unable to obtain a loan from a formal bank or credit union, or because they find it preferable to a formal bank. Members of these groups contribute money to the rotating credit associations on a regular basis and receive large sums either by rotation or by lottery; this forced savings component may play a part in immigrants choosing to save money in an informal organization (Handa and Kirton 1999).

Rotating savings and credit associations are pervasive in the developing world and, in the Caribbean, are part of the region's African heritage (Handa and Kirton 1999). Rotating credit associations were brought to the Caribbean from Africa by slaves and, despite very little economic activity among blacks during slavery, this tradition survived in all of the Caribbean countries, and was again translocated to the United States (Maynard 1996). Informal financial institutions have been observed in New York's West Indian community (Crowder 1999) as well as the Ethiopian community in Toronto providing Ethiopian (Mequanent 1996) and West Indian (Foner 1979) immigrants with the capital necessary to purchase homes. Due to their ubiquity in

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Africa and the Caribbean and their endurance over time and place, credit-pooling groups may assist other black immigrant groups in accumulating the capital necessary to purchase homes as well.

Credit pooling groups may compensate for black immigrants' lower credit and social capital than the U.S.-born, helping them attain the capital necessary to purchase a home. Given the necessity of an ethnic social network for the formation of credit pooling groups, Caribbean immigrants, the larger black immigrant group, may be better able to use these informal savings associations to finance home purchases.   Although these groups are most often formed based on country rather than regional associations, there are still more Caribbean immigrants from each of the top three Caribbean sending countries (Jamaica, Haiti, and Trinidad and Tobago) than African immigrants from any individual country. In addition to having a larger population, Caribbean immigrants are also more highly concentrated than the African-born; nearly 60% of Caribbean immigrants live in just three metropolitan areas. Africans, by contrast, are more dispersed, approximately one quarter live in New York and Washington D.C.[9], leading to the formation of substantial African ethnic enclaves.

Living in an ethnic enclave may benefit foreign-born blacks in that the enclave can provide access to rotating savings and credit associations and information networks regarding the housing market process. In addition to providing access to informal financial institutions, ethnic enclaves may also aid black immigrants by way of same ethnicity real estate agents and lenders. The potential benefits of same ethnicity real estate agents and lenders do not, however, seem to be shared by U.S.-born blacks in the housing market. Research shows that same race real estate agents, loan officers, and lenders do not eliminate U.S.-born blacks' pervasive sense of discrimination (Ratner 1997).

Caribbean immigrants may be most likely to benefit from an ethnic enclave because of their relatively large population and high geographic concentration and may therefore be more likely to

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[9] Author's calculations, 2005-2007 pooled American Community Survey (Ruggles, 2010)

utilize credit-pooling groups. Consequently, Caribbean immigrants may be more likely to own their home and own homes of higher value than African-born blacks. Caribbean immigrants from the top three sending countries should have the highest homeownership rates and house values of all Caribbean-born blacks.

Given the variation in the determinants of homeownership among blacks, my objective for this paper is to determine the homeownership pattern and house value of African and Caribbean-born blacks in 1990, 2000, and 2007. I conduct the analysis over three time periods because the black immigrant population has substantially increased over the past three decades. This increased population has led to larger same nativity social networks over time, which may have an effect on black immigrant housing market outcomes.

Data and Methods

I use data from the 5% Public Use Micro Samples (PUMS) of the 1990 and 2000 United States censuses and the pooled 2005-2007 ACS (Ruggles, Alexander et al. 2010). Although there is more recent data available, I focus on time periods before the housing bubble burst. Little is known about the housing market outcomes of black immigrants either before or after the housing market crash. Therefore it is important to first understand foreign-born blacks' housing market outcomes relative to the U.S.-born before determining what effect changes in the housing market has on these groups.

The unit of analysis is the household and as a result the data only includes heads of household who are age 25 or over and live in an identifiable metropolitan area. I only include identifiable metropolitan areas because I use metropolitan area level data in the analysis that is not available for unidentified areas. This analysis includes U.S.-born non-Hispanic black or white, and foreign-born non-Hispanic black sub-Saharan African or Caribbean households whose head is not in school.

All individual level characteristics of the household are determined by the characteristics of the household head. Race is defined here with a bridged race variable that uses a modified regression method to determine the probability of a single race for multiple race respondents and assigns a single race to individuals based on these probabilities retaining historically consistent and substantively meaningful groupings of multiple-race data (Liebler and Halpern-Manners 2008). Although black immigrants come to the United States with unique conceptions of race developed in their countries of origin which shape how they *respond* to racialization in the United States (Benson 2006), the American system of racial stratification categorizes individuals based on skin color alone (Alba and Nee 1997). Consequently, racial differences in treatment by lenders and real estate agents will be based on perceptions of race rather than self-classification or response to racialization.

Statistical Models

To determine differences in homeownership and house value among blacks in the United States, I use a multiple likelihood estimator (MLE) regression with a Heckman correction for selection into homeownership. The MLE with Heckman correction has two steps, the first of which, in this analysis, determines the probability of homeownership using a probit regression with the following equation:

$$I_h = Y_h\alpha + \mu_h$$

The dependent variable in this equation (I_h) is a dummy variable indicating whether the head of household owns their home. Y_h represents the characteristics influencing the household's selection into homeownership: median metro area house value/median metro area household income, proportion single-family homes in the metropolitan area, and number of children in the household along with the socioeconomic variables included in the second stage house value equation (geographic, individual and household, immigration, and human capital characteristics). Median house value/median household income, proportion single-family homes, and number of children are the only variables included in the probit equation, but not the linear regression

equation determining house value differences. Median house value/median household income

represents affordability of homes in the metropolitan area and number of children is used

because it is positively associated with homeownership. Proportion single family homes in the

metropolitan area is included as a selection variable because markets with a greater share of

single family housing represent more favorable supply conditions and are more conducive to

homeownership (Lee and Myers 2003; Dawkins 2005). In analyses focusing on major immigrant

settlement areas (New York and Washington D.C.), only number of children is used as an

indicator variable. μ_h is a standard normal variate and α is a vector of parameters. α', a

consistent estimator of α from the selection equation, is used to evaluate the expected house

value under the assumption that the error terms in the selection and house value equations both

have a bivariate normal distribution.

Because house value is dependent on selection into homeownership, outcomes of analyses

focusing only on homeowners are biased and provide inconsistent parameter estimates (Long

1997). The MLE with Heckman correction addresses this bias by controlling for selection into

homeownership through the probit model just described before determining the house value in

the second stage house value equation:

$$ln(v_h) = X_h\beta + \sigma_{eu}\lambda_h$$

House value (v_h) is determined using the categorical house value variable from the censuses and

ACS. In order to estimate house value, I use the midpoint of each category as the value of the

home. β is a vector of parameters to be estimated and σ_{eu} represents the covariance between

the error terms in the house value equation and the homeownership equation. The inverse Mills

ratio (λ_h) is a control variable accounting for selection bias into homeownership. A significant

Mills' lambda indicates that controlling for selection into homeownership has a significant effect

on house value that is not captured by the independent variables in the house value equation.

Independent Variables

The main independent variable is ethnicity, with black immigrants divided by race and nativity (non-Hispanic U.S.-born blacks and whites and non-Hispanic foreign-born African and Caribbean blacks). Based on the possible positive effect of rotating credit associations and living in an ethnic enclave on immigrant housing market outcomes, immigrants from countries with large U.S. populations should have higher rates of homeownership and higher house values than others from their region. In order to highlight these effects, I conduct the analyses at both the national level and in major black immigrant settlement areas (the New York and Washington D.C. metropolitan areas). I also disaggregate black immigrants into immigrants from Nigeria, Other African countries, Jamaica, Haiti, Trinidad and Tobago, and Other Caribbean countries. I only differentiate one major African sending country because the population size of all other African immigrant groups is considerably smaller than the population from major Caribbean sending countries.

In addition to race and nativity of the household head, I include metropolitan or region level variables to control for variations in homeownership and house value that are related to location. These variables are region (northeast, midwest, south, and west) and city population. City population is included because both home value and homeownership depend, in part, upon the population density of an area. In more densely populated areas, a larger percentage of the housing market will be comprised of rental units. The values of the homes in these areas will be higher due to higher demand. In analyses focusing on major immigrant settlement areas, I include a dummy variable for metropolitan area instead of region and city population.

I control for household factors that affect homeownership and house value by including individual and family characteristics that play a role in the likelihood of homeownership. Households choose to purchase homes according to their needs and preferences after considering their financial resources and because of this, homeownership is positively associated with marriage (Myers and

Lee 1998), age, income, and having children (Alba and Logan 1992). Accordingly, the individual and family characteristics included in this analysis are: age, marital status, household income (in 1999 dollars), and a dummy variable indicating whether the household received any pre-tax income from public assistance programs.

The Personal Responsibility and Work Opportunity Reconciliation Act of 1996 largely eliminated eligibility for most means tested assistance for all noncitizens who came to the U.S. after 1996 and many who came before 1996 (Borjas 2002). In spite of this, it is unlikely that there will be differences in public assistance among immigrants over time. Welfare participation rates of immigrants declined at the national level after the act was instituted, however, this trend is entirely attributable to welfare participation trends in California (Borjas 2002). Since the vast majority of black immigrants are clustered on the east coast, there should be no difference in the effect of welfare by ethnicity over time.

In addition to individual and household factors, human capital characteristics also have a significant effect on homeownership and house value. Educational attainment determines, at least in part, whether individuals can receive home loans or save for a down payment. Educational attainment is associated with the wages that individuals receive, and higher wages make home loan approval more likely. However, for the foreign born, attending school in the United States may be invaluable in teaching them to use their education and other forms of human capital in ways that are rewarded in the United States labor market (Friedberg 2000). I estimate whether education was completed in the United States by calculating age at immigration and comparing that to the estimated age at which each individual completed their education. Age at immigration is estimated by subtracting years spent in the United States from age. I assume that individuals complete kindergarten by age six, therefore I estimate age of education completion by adding six to the number of years of education. Years of education are measured as grade level for those with a high school education or less. For those with more than a high school diploma, I add 12 to the number of years of college completed. If age of education

completion is lower than immigration age, I assume that education was completed outside of the United States.

Finally, immigration characteristics have also been found to have an effect on the housing market outcomes of the foreign-born. Results of previous research suggest that the negative effects of foreign birth on homeownership are mediated by English ability (Flippen 2001), therefore English ability is included in this analysis as an immigration characteristic along with immigration cohort. Consistent with assimilation theory, immigrants have lower probability of homeownership relative to the U.S. born, but this difference decreases with time spent in the United States (Colburn 1998). To control for time spent in the U.S., immigration cohort, defined as immigration prior to1980, 1980-1989, 1990-1999, and 2000-2007, is included in the analysis. The native born and pre-1980 immigrants are pooled into one reference group due to collinearity; the probability of homeownership does not differ between the native born and immigrants of the same race who have lived in the United States for more than 20 years (Colburn 1998).

Results

Table one presents descriptive statistics for characteristics of heads of households. Foreign-born blacks are younger than the U.S.-born in all three time periods with African-born blacks the youngest and U.S.-born whites the oldest of all four groups. Although U.S.-born whites are older than black immigrants, there is very little difference between the marriage rates of U.S.-born whites and black immigrants. In fact, though the youngest, African immigrants have the highest marriage rate of all groups.

Table 1. Head of Household Characteristics (Adults age 25+, Not in School)

	U.S.-born white	U.S.-born black	African-born black	Caribbean-born black
1990				
Mean Age	51	49	37	46
% Married	57.1	36.9	57.7	50.4
% Female	32.2	52.2	18.4	43.9
Mean Number of Children	0.7	1.1	1.2	1.3
% College Degree +	28.9	11.9	54.8	13.8
Migration Cohort (%)				
Pre 1980	---	---	46.5	68.5
1981-1990	---	---	53.5	31.5
1991-2000	---	---	---	---
2001-2007	---	---	---	---
% U.S. Citizen	---	---	72.9	55.5
% Speaks English at least very well	---	---	83.1	84.5
Mean Number in household	2.4	2.9	3.1	3.4
Mean Household Income	45,197	27,963	34,142	36,108
N	**1,897,270**	**254,463**	**1,961**	**9,677**
2000				
Mean Age	52	49	42	48
% Married	55.6	34.1	56.1	47.6
% Female	32.9	54.3	28.6	49.6
Mean Number of Children	0.7	0.9	1.2	1.3
% College Degree +	30.8	14.6	44.7	16.3
Migration Cohort (%)				
Pre 1980	---	---	24.8	51.3
1981-1990	---	---	36.3	33.8
1991-2000	---	---	38.9	15.0
2001-2007	---	---	---	---
% U.S. Citizen	---	---	57.7	38.1
% Speaks English at least very well	---	---	77.7	82.8
Mean Number in household	2.4	2.7	3.1	3.2
Mean Household Income	66,732	41,312	51,210	49,060
N	**2,222,707**	**351,541**	**7,247**	**21,017**
2005-2007				
Mean Age	55	52	43	51
% Married	55.5	32.5	59.9	46.4
% Female	43.0	60.4	34.8	55.6
Mean Number of Children	0.6	0.8	1.3	1.0
% College Degree +	36.0	19.0	45.8	21.3
Migration Cohort (%)				
Pre 1980	---	---	16.6	44.3
1981-1990	---	---	24.0	31.2
1991-2000	---	---	40.7	19.9
2001-2007	---	---	18.7	4.7
% U.S. Citizen	---	---	47.9	67.5
% Speaks English at least very well	---	---	71.9	83.7
Mean Number in household	2.3	2.4	3.2	2.9
Mean Household Income	81,107	47,721	61,298	58,832
N	**1,531,090**	**214,988**	**6,422**	**14,077**

African-born blacks are also unique in terms of educational attainment. A much larger proportion of African immigrants than any other group have earned at least a bachelor's degree. The proportion of African immigrants with at least a college degree is nearly twice that of whites in 1990 and approximately 15% higher in 2000 and 2007. 55% of Africans have at least a college degree, which is nearly four, and over five times as many as Caribbean and U.S.-born blacks respectively. The difference between African-born blacks and all other race/ethnic groups decreases over time as the proportion that have completed college decreases for Africans, and increases for all other groups.

While educational differences between the two foreign-born groups decreases over time, the same is not true for immigration characteristics. In all three years, a larger proportion of African immigrants came to the United States 5-10 years prior to the survey period than Caribbean-born blacks. Because of the residency requirement of U.S.-citizenship, Caribbean immigrants' time in the U.S. at least partially accounts for their much higher rates of citizenship relative to the African-born.

Despite living in the U.S. longer than the African-born, the household income of Caribbean immigrants is lower than that of African immigrants in 2000 and 2007. Both African and Caribbean-born blacks have higher average household income than U.S.-born blacks in all three years, possibly due to their larger households. Although household income is highly correlated with homeownership, black immigrants have lower levels of homeownership than the U.S.-born in all three time periods, with the exception of Caribbean immigrants in 2007 who have a higher rate of homeownership (59%) than U.S.-born blacks (Table two). As expected, homeownership increases with time in the United States for both foreign-born groups. By 2007, the proportion of African households in each immigration cohort that own their home is nearly equal to that of the Caribbean-born. While the foreign-born are less likely to own their homes than the U.S.-born, their homes are worth more than both U.S.-born white and black households.

Table 2. Homeownership and House Value Characteristics (Adults age 25+, Not in School)

	U.S.-born white	U.S.-born black	African-born black	Caribbean-born black
1990				
% Own Home	70.7	46.3	25.2	44.5
% Homeownership by immigration cohort				
Pre 1980	---	---	39.2	53.2
1980-1989	---	---	13.1	25.6
1990-1999	---	---	---	---
2000-2007	---	---	---	---
Mean House Value (1999 dollars)	126,344	74,998	132,382	134,096
2000				
% Own Home	76.0	49.9	32.2	50.1
% Homeownership by immigration cohort				
Pre 1980	---	---	52.1	60.1
1980-1989	---	---	37.8	44.4
1990-1999	---	---	14.4	28.8
2000-2007	---	---	---	---
Mean House Value (1999 dollars)	171,867	193,120	159,542	153,866
2005-2007				
% Own Home	80.3	54.5	44.5	58.9
% Homeownership by immigration cohort				
Pre 1980	---	---	67.4	69.0
1980-1989	---	---	57.5	58.9
1990-1999	---	---	40.5	44.4
2000-2007	---	---	16.5	25.0
Mean House Value (1999 dollars)	291,093	188,037	306,295	323,522

The head of household characteristics and homeownership and house value of black immigrants from major immigrant sending countries (Nigeria, Jamaica, Haiti, and Trinidad and Tobago) are presented in Tables three and four. Compared to all African immigrants, Nigerians are much more likely to have at least a college education (at least 16% more Nigerians have a college education than the average for all African immigrants) and a much larger proportion speak English at least very well (at least 90%). Nigerians have also been in the United States longer and a larger proportion of Nigerians are U.S. citizens. Despite their higher human capital characteristics, there is very little difference in the homeownership rates and house values of Nigerians and the average for all Africans. Among Caribbean immigrants, there is very little difference between the characteristics of heads of households from major immigrant sending countries and the average in terms of socioeconomic characteristics with the exception of English

ability. Haitians are much less likely than the other Caribbean immigrants to speak English at least very well. Haitians also have the lowest homeownership rates of all three major Caribbean immigrant groups; 36% owned their home in 2007.

Table 3. Head of Household Characteristics from Major Immigrant Sending Countries (Adults age 25+, Not in School)

	Nigeria	Jamaica	Haiti	Trinidad and Tobago
1990				
Mean Age	36	47	43	46
% Married	65.5	51.1	54.7	47.0
% Female	11.4	47.0	36.7	45.8
Mean Number of Children	1.4	1.2	1.7	1.3
% College Degree +	71.7	14.9	11.9	13.5
Migration Cohort (%)				
Pre 1980	47.3	69.5	55.8	77.6
1981-1990	52.7	30.6	44.2	22.4
1991-2000	---	---	---	---
2001-2007	---	---	---	---
% U.S. Citizen	76.4	51.8	66.1	62.3
% Speaks English at least very well	91.8	98.7	41.8	98.7
Mean Number in household	3.2	3.2	4.0	3.2
Mean Household Income	34,082	37,692	32,659	37,036
N	643	4,016	2,321	1,181
2000				
Mean Age	42	49	46	48
% Married	65.0	45.2	54.7	46.2
% Female	20.2	52.5	43.7	51.5
Mean Number of Children	1.5	1.1	1.6	1.1
% College Degree +	68.8	16.6	14.1	18.0
Migration Cohort (%)				
Pre 1980	30.2	51.2	45.6	55.6
1981-1990	39.1	34.5	36.5	30.7
1991-2000	30.7	14.3	17.9	13.7
2001-2007	---	---	---	---
% U.S. Citizen	50.0	35.4	43.3	40.5
% Speaks English at least very well	92.6	98.6	36.1	98.6
Mean Number in household	3.4	3.0	3.8	3.0
Mean Household Income	61,288	51,327	44,571	50,483
N	1,996	8,912	6,050	2,547
2005-2007				
Mean Age	46	52	49	51
% Married	66.6	44.3	55.9	43.3
% Female	27.5	59.1	47.1	57.0
Mean Number of Children	1.5	0.9	1.4	0.9
% College Degree +	73.7	21.4	19.8	22.2
Migration Cohort (%)				
Pre 1980	25.5	43.8	37.7	46.0
1981-1990	27.1	32.1	33.9	28.6
1991-2000	32.9	19.3	22.9	21.4
2001-2007	14.4	4.8	5.5	4.0
% U.S. Citizen	37.6	28.2	36.1	35.5
% Speaks English at least very well	89.8	99.0	44.7	99.0
Mean Number in household	3.3	2.7	3.5	2.7
Mean Household Income	78,543	60,223	56,766	59,732
N	1,524	5,872	3,842	1,754

Table 4. Homeownership and House Value Characteristics of Heads of Households from Major Immigrant Sending Countries (Adults age 25+, Not in School)

	Nigeria	Jamaica	Haiti	Trinidad and Tobago
1990				
% Own Home	23.3	50.4	36.4	41.0
% Homeownership by immigration cohort				
U.S.-born/Pre 1980	35.9	58.1	49.6	46.9
1980-1989	12.1	32.8	19.7	20.4
1990-1999	---	---	---	---
2000-2007	---	---	---	---
Mean House Value (1999 dollars)	124,767	126,344	133,089	141,271
2000				
% Own Home	43.9	56.4	44.5	45.8
% Homeownership by immigration cohort				
U.S.-born/Pre 1980	57.5	66.0	56.0	54.7
1980-1989	49.4	51.0	40.7	381
1990-1999	23.5	34.9	22.8	27.0
2000-2007	---	---	---	---
Mean House Value (1999 dollars)	163,162	150,500	149,476	165,673
2005-2007				
% Own Home	23.3	50.4	36.4	41.0
% Homeownership by immigration cohort				
U.S.-born/Pre 1980	73.5	74.7	67.8	62.3
1980-1989	72.9	65.4	57.1	55.0
1990-1999	58.6	52.0	40.3	38.7
2000-2007	28.2	29.6	18.1	25.7
Mean House Value (1999 dollars)	308,375	310,899	330,992	341,446

Selection into Homeownership

The first step of the MLE with Heckman correction determining house value is a probit model predicting the probability of homeownership. The probit models for all identifiable metropolitan areas in 1990, 2000, and 2007 are presented in Table five. In 1990, all blacks are significantly less likely than whites to own their homes, however there is substantial variation among blacks. Although Haan's (2007) study found that black immigrants are less likely than the native-born, when disaggregated I find that this is not true of all foreign-born blacks. African immigrants are 79% less likely than whites to own their homes after controlling for all independent variables, the largest homeownership disadvantage of all blacks. However, Caribbean immigrants are only

17% less likely than whites to own their homes and this coefficient is about half that of U.S.-born blacks.

Table 5. Probability of Homeownership - All Metropolitan Areas (ref. U.S.-born white)

	1990	2000	2007
Race/Ethnicity (ref. U.S.-born white)			
U.S.-born black	-0.31***	-0.36***	-0.39***
African-born black	-0.79***	-0.81***	-0.64***
Caribbean-born black	-0.17***	-0.24***	-0.19***
Female	-0.004	-0.03***	-0.01***
Age	0.10***	0.10***	0.09***
Age^2	-0.001***	-0.001***	-0.001***
Marital Status (ref. Married, Spouse Present)			
Married, Spouse Absent	-0.60***	-0.66***	-0.67***
Never Married/Single	-0.73***	-0.77***	-0.73***
Divorced	-0.71***	-0.73***	-0.07***
Widowed	-0.34***	-0.39***	-0.39***
Separated	-0.87***	-0.92***	-0.96***
Speaks English at least very well	-0.26***	-0.32***	-0.24***
Foreign Education	0.03	-0.13***	-0.09***
Migration Cohort (ref.U.S.-born/Pre-1980)			
1980-1989	-0.50***	-0.12***	-0.06**
1990-1999	---	-0.41***	-0.21***
2000-2007	---	---	-0.72***
Naturalized Citizen	-0.22***	-0.36***	-0.38***
Educational Attainment (ref. 4+ Years College)			
1-3 Years college	-0.07***	-0.09***	-0.12***
High School Diploma/GED	-0.13***	-0.16***	-0.20***
<High School	-0.28***	-0.36***	-0.42***
Household Income	8.36x10^{-6}***	5.11x10^{-6}***	6.58x10^{-6}***
Welfare	-0.57***	-0.60***	-0.66***
Region (ref. Northeast)			
Midwest	0.03***	0.09***	0.08***
South	-0.03***	0.04***	0.04***
West	-0.05***	-0.05***	-0.08***
City Population	-7.08x10^{-6}***	0.22***	-2.46x10^{-6}***
Suburb	n/a	-2.16x10^{-6}***	0.22***
Selection Variables			
Median House Value/Median Household Income	-0.07***	-0.10***	-0.04***
Number of Children	0.07***	7.04x10-2***	0.06***
Proportion Single Family Homes in Metro Area	0.38***	0.39***	0.41***

The coefficients of most independent variables have the expected association with homeownership; however, this is not true of speaking English at least very well and being a naturalized citizen. These variables are negatively rather than positively associated with homeownership. Although controlling for immigration characteristics is expected to reduce the homeownership gap between the U.S. and foreign-born, this is not true here due to the relationship between immigration characteristics and homeownership for Caribbean immigrants.

When immigration variables are added to a model that only includes geographic characteristics (not shown), Caribbean-born blacks' homeownership disadvantage *increases* relative to U.S.-born whites by 8%, while it decreases the homeownership gap for African immigrants. Given that Caribbean immigrants make up the majority of the foreign-born black population, this explains the negative coefficients observed in the full model.

The relationship between most independent variables and homeownership is consistent over time, however likelihood of homeownership changes over time for all blacks. U.S.-born blacks are increasingly less likely than whites to own their homes over time after controlling for all independent variables; the U.S.-born have a coefficient of -0.31 in 1990 but by 2007 their coefficient reaches -0.39. The increase in the homeownership disadvantage is also observed for foreign-born blacks between 1990 and 2000; however, between 2000 and 2007 black immigrant homeownership increases. The homeownership gap between whites and African immigrants is lowest in 2007 when Africans are 64% less likely than whites to own their homes after controlling for all independent variables. Although Caribbean immigrants' likelihood of homeownership also increases between 2000 and 2007, they do not quite reach the coefficient of 1990 (-0.17). Likelihood of homeownership is significantly different for each group of blacks in all years with the exception of the difference between U.S. and Caribbean-born blacks in 1990[10].

House Value

After controlling for selection into homeownership, Table six presents the natural log of house value for all identifiable metropolitan areas in 1990, 2000, and 2007. In 1990, I find that both groups of foreign-born blacks own homes of higher value than U.S.-born blacks, and Caribbean-born blacks' house values' are 4% higher than whites. Africans' homes are worth 21% less than

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[10] Wald tests for significant differences in homeownership among blacks at the national level were conducted on logit regression rather than the first step probit because of an irregularity in the statistical program. In 1990, there was a significant difference between U.S. and African-born blacks (Prob>chi^2=0.0005) and African and Caribbean-born blacks (Prob>chi^2=0.0000). By 2000 differences between all three groups (U.S. and African-born blacks (Prob>chi^2=0.0000), U.S. and Caribbean-born blacks (Prob>chi^2=0.0002), and African and Caribbean-born blacks (Prob>chi^2=0.0000)) were significant. The same is true in 2007, (U.S. and African-born blacks (Prob>chi^2=0.0013), U.S. and Caribbean-born blacks (Prob>chi^2=0.0011), and African and Caribbean-born blacks (Prob>chi^2=0.0000)).

whites almost entirely due to the effect of controlling for human capital characteristics. Unlike the homeownership equation (Table five), speaking English at least very well is positively associated with house value. In addition, being a naturalized citizen has only a small negative effect on house value.

Table 6. Natural Log of House Value - All Metro Areas (ref. U.S.-born whites)

	1990	2000	2007
Race/Ethnicity (ref. U.S.-born white)			
U.S.-born black	-0.34***	-0.29***	-0.26***
African-born black	-0.21***	-0.29***	-0.09***
Caribbean-born black	0.04*	-0.06***	0.15***
Female	0.02***	0.003	0.01***
Age	0.04***	0.03***	0.02***
Age^2	-0.0003***	-0.0002***	-0.0002***
Marital Status (ref. Married, Spouse Present)			
Married, Spouse Absent	-0.19***	-0.23***	-0.18***
Never Married/Single	-0.40***	-0.43***	-0.36***
Divorced	-0.36***	-0.39***	-0.35***
Widowed	-0.14***	-0.16***	-0.15***
Separated	-0.36***	-0.43***	-0.41***
Speaks English at least very well	-0.01	0.002	0.11***
Foreign Education	0.02	0.04*	0.02
Migration Cohort (ref.U.S.-born/Pre-1980)			
1980-1989	-0.16***	-0.03	0.05**
1990-1999	---	-0.16***	-0.05*
2000-2007	---	---	-0.24***
Naturalized Citizen	-0.04	-0.08***	-0.09***
Educational Attainment (ref. 4+ Years College)			
1-3 Years college	-0.21***	-0.25***	-0.24***
High School Diploma/GED	-0.39***	-0.44***	-0.45***
<High School	-0.64***	-0.72***	-0.79***
Household Income	5.67x10^{-6}***	4.09x10^{-6}***	4.42x10^{-6}***
Welfare	-0.36***	-0.40***	-0.46***
Region (ref. Northeast)			
Midwest	-0.46***	-0.11***	-0.26***
South	-0.40***	-0.21***	-0.21***
West	0.02***	0.21***	0.32***
City Population	2.03x10^{-6}***	5.90x10^{-6}***	8.19x10^{-6}***
Suburb	n/a	0.17***	0.17***
Wald Chi^2	601,543	711,197	573,220
Prob>Chi^2	0	0	0
Rho	0.07	0.64	0.56
Mills Lambda	0.42***	0.47***	0.43***
Uncensored N	1,282,161	1,950,399	1,420,926

U.S.-born blacks' house value relative to whites increases steadily over time and in 2007, their houses are worth 26% less than whites after controlling for all independent variables. Caribbean and African-born blacks' house values, however, decrease between 1990 and 2000, and then

increase considerably between 2000 and 2007 relative to U.S.-born whites. By 2007, Caribbean immigrants' homes are worth 15% more than whites, and Africans' homes just 7% less, than whites. In addition to blacks' house values being significantly different from whites, they are also significantly different from one another in all three years[11]. The only exception is U.S. and African-born blacks in 2000; there is no significant difference between their coefficients.

Homeownership and House Value in New York and Washington D.C. Metropolitan Areas

Caribbean-born blacks' high house value at the national level may be at least partially determined by their concentration in major immigrant settlement areas. Although I control for metropolitan area housing characteristics in the national level analysis, they may not fully capture the characteristics of these major immigrant settlement areas that affect house value. In order to more accurately determine the housing market outcomes of black immigrants relative to U.S.-born whites and blacks, in this section I focus the analysis on two major immigrant settlement areas with sizable populations of both African and Caribbean immigrants: the New York and Washington D.C. metropolitan areas[12]. Given the focus on particular metropolitan areas, metro level variables that were included in the analysis of all U.S. metropolitan areas are excluded.

Table seven presents the likelihood of homeownership in New York and Washington D.C. In these metropolitan areas, blacks' probability of homeownership is very similar to the national analysis. Here again, unlike previous work, all black immigrants are not less likely than U.S.-born blacks to own their homes. Africans are least likely to own their homes (nearly 80% less likely than whites), while the disparity between whites and blacks is lowest for the Caribbean-born.

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[11] Wald tests were used to determine significant differences in house value among blacks using the 2nd stage of the MLE with Heckman equation. In 1990, differences between U.S. and African-born blacks (Prob>chi^2=0.0001), U.S. and Caribbean-born blacks (Prob>chi^2=0.0000), and African and Caribbean-born blacks (Prob>chi^2=0.0000) were significant. In 2000, the differences between U.S. and Caribbean-born blacks (Prob>chi^2=0.00001) and African and Caribbean-born blacks (Prob>chi^2=0.0000) were significant. In 2007, the differences between all three groups were significant (Prob>chi^2=0.0000).

[12] The metropolitan areas are defined as Primary Metropolitan Statistical Areas.

Also similar to the national analysis, immigration characteristics that are usually positively associated with homeownership have the opposite effect. Speaking English at least very well and being a naturalized citizen both have a significantly negative association with homeownership (though the size of the association is slightly smaller in the major immigrant settlement areas). In addition to the slightly smaller coefficient, immigration variables have a consistent association for both black immigrant groups. In the national analysis, controlling for immigration characteristics decreases Caribbean immigrants' likelihood of homeownership while increasing that of African immigrants. However in the New York and Washington D.C. metropolitan areas, controlling for English ability, immigration cohort, and citizenship increases the probability of homeownership for both groups (not shown). Africans' probability of homeownership increases by over 30% and also increases Caribbean immigrants' coefficients by 2%. This indicates that in these metro areas, immigration characteristics are more of a disadvantage for the foreign-born than in the nation as a whole.

Table 7. Probability of Homeownership - New York and Washington D.C. Metropolitan Areas (ref. U.S.-born whites)

	1990	2000	2007
Race/Ethnicity (ref. U.S.-born white)			
U.S.-born black	-0.43***	-0.32***	-0.35***
African-born black	-0.76***	-0.73***	-0.62***
Caribbean-born black	-0.22***	-0.05	-0.17**
Female	-0.02*	-0.03**	0.04***
Age	0.08***	0.09***	0.09***
Age^2	-0.001***	-0.001***	-0.001***
Marital Status (ref. Married, Spouse Present)			
Married, Spouse Absent	-0.52***	-0.53***	-0.68***
Never Married/Single	-0.68***	-0.63***	-0.64***
Divorced	-0.56***	-0.59***	-059***
Widowed	-0.24***	-0.30***	-0.33***
Separated	-0.73***	-0.78***	-0.82***
Speaks English at least very well	-0.26***	-0.30***	-0.21***
Foreign Education	0.02	-0.23***	-0.11**
Migration Cohort (ref.U.S.-born/Pre-1980)			
1980-1989	-0.60***	-0.20***	-0.15***
1990-1999	---	-0.40***	-0.31***
2000-2007	---	---	-0.77***
Naturalized Citizen	-0.29***	-0.36***	-0.42***
Educational Attainment (ref. 4+ Years College)			
1-3 Years college	-0.08***	-0.04**	-0.08***
High School Diploma/GED	-0.20***	-0.17***	-0.16***
<High School	-0.37***	-0.45***	-0.51***
Household Income	5.93x10^{-6}***	-3.30x10^{-6}***	3.44x10^{-6}***
Welfare	-0.60***	-0.69***	-0.81***
Washington D.C.	0.64***	0.36***	0.39***
Suburb	n/a	0.50***	0.52***
Selection Variable			
Number of Children	0.08***	0.10***	0.09***

Again, as in the national analysis, the effect of independent variables on likelihood of homeownership is consistent over time, however there is some variation in blacks' likelihood of homeownership. While Africans' likelihood of homeownership increases steadily relative to whites over time in New York and Washington D.C., the same is not true of U.S. and Caribbean-born blacks[13]. Both U.S. and Caribbean-born blacks' likelihood of homeownership increases between 1990 and 2000, and then decreases in 2007.

The natural log of house value in New York and Washington D.C. is presented in Table eight and here I find a difference from the national analysis. In 1990, after controlling for all independent

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[13] The coefficients of all black groups in all three years are significantly different from one another with the exception of African and Caribbean-born blacks in 1990 (Prob>chi^2=0.3310) and U.S. and African-born blacks in 2000 and 2007 (Prob>chi^2=0.9988 and 0.2391 respectively). All other differences between groups were significant at the 0.05 level or below. Significant differences between groups are determined using the Wald test.

variables, I find that all blacks actually own homes of significantly lower value than whites in these major immigrant settlement areas; coefficients of -0.29, -0.12, and -0.18 for U.S., African, and Caribbean-born blacks respectively. However, the difference is smaller for U.S.-born and African-born blacks in New York and Washington D.C than in the nation as a whole in 1990 and 2000. In 2007, both U.S. and foreign-born blacks own homes of significantly lower values than whites. The significantly lower house value of Caribbean immigrants (-13%) is a stark difference from the national analysis where Caribbean immigrants own homes of 15% higher value than whites. Caribbeans' low house value in New York and Washington D.C. indicate that the house value advantage at the national level is due to their concentration in metropolitan areas with high average house values.

The trend over time is very similar to the national analysis for each group except Caribbean immigrants. In addition to lower house values relative to whites in 2000 than in 1990, Caribbean immigrants also experience a small decline in house value between 2000 and 2007. After controlling for all independent variables, in 2007 all three black groups have significantly lower house value than whites, with the smallest difference between whites and African immigrants (10%) and the largest difference between U.S-born blacks and whites (21%). Just as in the national analysis, blacks' house values are significantly different from one another in all three years. Again, the only exception is U.S. and African-born blacks in 2000; there is no significant difference between their coefficients.

Table 8. Natural Log of House Value - New York and Washington D.C. (ref. U.S.-born whites)

	1990	2000	2007
Race/Ethnicity (ref. U.S.-born white)			
U.S.-born black	-0.29***	-0.22***	-0.21***
African-born black	-0.12*	-0.22***	-0.10*
Caribbean-born black	-0.08*	-0.12***	-0.13***
Female	0.02**	-0.003	-0.01**
Age	0.01***	0.001	-0.01**
Age^2	-6.3×10^{-5}***	-4.10×10^{-6}	2.37×10^{-5}
Marital Status (ref. Married, Spouse Present)			
Married, Spouse Absent	0.01	-0.04*	0.04
Never Married/Single	-0.16***	-0.21***	-0.11***
Divorced	-0.10***	-0.15***	-0.08***
Widowed	-0.03**	-0.03***	-0.02
Separated	-0.001	-0.09***	0.04
Speaks English at least very well	0.07	0.07*	0.06
Foreign Education	-0.03	0.04*	0.05
Migration Cohort (ref.U.S.-born/Pre-1980)			
1980-1989	0.07	0.03	0.08**
1990-1999	---	0.05	0.11**
2000-2007	---	---	0.18*
Naturalized Citizen	0.04	0.07**	0.07*
Educational Attainment (ref. 4+ Years College)			
1-3 Years college	-0.13***	-0.17***	-0.12***
High School Diploma/GED	-0.19***	-0.24***	-0.20***
<High School	-0.24***	-0.31***	-0.26***
Household Income	2.00×10^{-6}***	2.34×10^{-6}***	1.42x10-6***
Welfare	0.09***	0.02	0.15***
Washington D.C.	-0.20***	-0.21***	-0.10***
Suburb	n/a	-0.07***	-0.18***
Wald Chi^2	11,084	22,664	9,338
Prob>Chi^2	0	0	0
Rho	-0.46	-0.25	-0.68
Mills Lambda	-0.27***	-0.14***	-0.44***
Uncensored N	69,312	80,155	56,781

Major Immigrant Sending Countries

Although I find relatively consistent outcomes at the national level and in major immigrant settlement areas, there may be variation in outcomes that is masked by combining foreign-born blacks by region of birth. In order to determine if location and immigrant concentration plays a role in housing market differences due to the importance of same nativity social networks or differences in immigration patterns, I estimate the MLE with Heckman correction and disaggregate foreign-born blacks to identify immigrants from the largest sending countries in Tables nine through twelve.

Table nine presents probability of homeownership in all metropolitan areas. In 1990 all blacks are less likely than whites to own their homes, however, there is considerable variation among foreign-born blacks. With a coefficient of -0.95, Nigerians are least likely to own their home; relative to whites, Nigerians are 24% less likely than non-Nigerians to own their home. Among Caribbean immigrants, Jamaicans (the largest black immigrant group) have homeownership probabilities that are closest to whites. Jamaicans are the outlier in that all other Caribbean groups have homeownership probabilities at least 20% lower than that of white.

Among blacks, Jamaicans have the highest probability of homeownership in all three years[14] and, though there is very little change in their coefficients over time, by 2007 they are just as likely as whites to own their home. Immigrants from Haiti and Trinidad and Tobago, by contrast are 35% and 27% less likely than whites to own their homes by 2007. The coefficients of non-Jamaican Caribbean immigrants are much closer to those observed when all Caribbeans are combined.

Although there is little change in the size of Caribbean immigrants' coefficients over time, the same is not true of Nigerian immigrants. Nigerians' probability of homeownership increases steadily over time, increasing from being 95% less likely than whites to own their homes in 1990 to 48% less likely in 2007. In 2000 and 2007, Nigerians, the largest African immigrant group, are more likely than non-Nigerian African immigrants to own their home. The difference between Nigerians' likelihood of homeownership and that of other Africans is statistically significant in all three survey periods[15].

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[14] Jamaicans' probability of homeownership is significantly higher (Prob>chi^2<0.005) than all other Caribbean-born blacks.

[15] Nigerians' probability of homeownership is significantly higher (Prob>chi^2=0.0037, 0.0162, and 0.0000) than all other Africans in 1990, 2000, and 2007.

Table 9. Probability of Homeownership for Household Heads from Major Immigrant Sending Countries - All Metropolitan Areas (ref. U.S.-born whites)

	1990	2000	2007
Race/Ethnicity (ref. U.S.-born white)			
U.S.-born black	-0.31***	-0.36***	-0.39***
Nigerian-born black	-0.95***	-0.77***	-0.48***
All Other African-born black	-0.71***	-0.85***	-0.70***
Jamaican-born black	-0.09*	-0.10***	-0.04
Haitian-born black	-0.24***	-0.42***	-0.35***
Trinidad and Tobago-born black	-0.23***	-0.32***	-0.27***
All Other Caribbean-born black	-0.21***	-0.29***	-0.25***
Female	-0.004	-0.03***	-0.01***
Age	0.10***	0.10***	0.09***
Age^2	-0.001***	-0.001***	-0.001***
Marital Status (ref. Married, Spouse Present)			
Married, Spouse Absent	-0.60***	-0.66***	-0.67***
Never Married/Single	-0.73***	-0.77***	-0.73***
Divorced	-0.71***	-0.73***	-0.71***
Widowed	-0.34***	-0.39***	-0.39***
Separated	-0.87***	-0.92***	-0.96***
Speaks English at least very well	-0.20***	-0.17***	-0.12***
Foreign Education	0.03	-0.13***	-0.09***
Migration Cohort (ref.U.S.-born/Pre-1980)			
1980-1989	-0.51***	-0.13***	-0.07**
1990-1999	---	-0.43***	-0.21***
2000-2007	---	---	-0.75***
Naturalized Citizen	-0.21***	-0.36***	-0.38***
Educational Attainment (ref. 4+ Years College)			
1-3 Years college	-0.07***	-0.09***	-0.12***
High School Diploma/GED	-0.13***	-0.16***	-0.20***
<High School	-0.28***	-0.36***	-0.42***
Household Income	8.36×10^{-6}***	5.11×10^{-6}***	6.58×10^{-6}***
Welfare	-0.57***	-0.60***	-0.66***
Region (ref. Northeast)			
Midwest	0.03***	0.09***	0.08***
South	-0.03***	0.04***	0.04***
West	-0.05***	-0.05***	-0.08***
City Population	-7.07×10^{-6}***	-2.15×10^{-6}***	-2.46×10^{-6}***
Suburb	n/a	0.22***	0.22***
Selection Variables			
Median House Value/Median Household Income	-0.07***	-0.10***	-0.04***
Number of Children	0.07***	0.07***	0.06***
Proportion Single Family Homes in Metro Area	0.38***	0.39***	0.41***

Just as disaggregating black immigrants reveals considerable variation in homeownership, it also does so for house value, particularly for the African-born. In 1990, Nigerians own homes worth 32% less than whites while all other Africans' own homes worth only 15% less. Unlike the homeownership equation, Nigerians do not lose their disadvantage relative to other Africans over time. Nigerians' homes are worth significantly less than other Africans in all three years. In contrast to Africans who own homes that are worth significantly less than whites, Jamaicans own

homes worth 8% more[16]. Given that this is not true of any other Caribbean group, Jamaican immigrants are driving the significantly higher house values found for all Caribbean immigrants in the national analysis.

Between 1990 and 2000, the house values of nearly all black immigrants decline relative to whites; Caribbean immigrants, with the exception of Jamaicans, own homes of significantly lower value than whites. However, by 2007, nearly all Caribbean-born blacks' homes are worth significantly more than whites with Jamaican and Haitians' homes worth 20% more than whites. The house value of all African immigrants also increases between 2000 and 2007, though Nigerians' homes are still worth 13% less than whites indicating that the average house value for all Africans in the national analysis are due to Nigerians low house values.

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[16] Differences between Jamaicans and all other Caribbean groups are significant (Prob>chi^2<0.05) in all three years with the exception of the difference between Jamaicans and Haitians in 1990.

Table 10. Natural Log of House Value for Household Heads from Major Immigrant Sending Countries - All Metropolitan Areas (ref. U.S.-born whites)

	1990	2000	2007
Race/Ethnicity (ref. U.S.-born white)			
U.S.-born black	-0.34***	-0.29***	-0.26***
Nigerian-born black	-0.32***	-0.32***	-0.14***
All Other African-born black	-0.15***	-0.27***	-0.04
Jamaican-born black	0.08**	-0.02	0.20***
Haitian-born black	0.05	-0.06**	0.21***
Trinidad and Tobago-born black	-0.01	-0.11***	0.06*
All other Caribbean-born black	0.004	-0.11***	0.07**
Female	0.02***	0.002	0.01***
Age	0.04***	0.03***	0.02***
Age^2	-0.0003***	-0.0002***	-0.0002***
Marital Status (ref. Married, Spouse Present)			
Married, Spouse Absent	-0.19***	-0.23***	-0.18***
Never Married/Single	-0.40***	-0.43***	-0.36***
Divorced	-0.36***	-0.39***	-0.35***
Widowed	-0.14***	-0.16***	-0.15***
Separated	-0.36***	-0.43***	-0.41***
Speaks English at least very well	-0.02	0.01	0.07**
Foreign Education	0.02	0.03*	0.01
Migration Cohort (ref.U.S.-born/Pre-1980)			
1980-1989	-0.17***	-0.03*	0.04*
1990-1999	---	-0.16***	-0.05*
2000-2007	---	---	-0.24***
Naturalized Citizen	-0.03	-0.08***	-0.08***
Educational Attainment (ref. 4+ Years College)			
1-3 Years college	-0.21***	-0.25***	-0.24***
High School Diploma/GED	-0.39***	-0.44***	-0.45***
<High School	-0.64***	-0.72***	-0.79***
Household Income	5.67x10^{-6}***	4.09x10^{-6}***	4.42x10^{-6}***
Welfare	-0.36***	-0.40***	-0.46***
Region (ref. Northeast)			
Midwest	-0.46***	-0.11***	-0.26***
South	-0.40***	-0.21***	-0.21***
West	0.02***	0.21***	0.32***
City Population	2.03x10^{-6}***	5.91x10^{-6}***	8.21x10^{-6}***
Suburb	n/a	0.17***	0.17***
Wald Chi^2	601,523	711,427	573,462
Prob>Chi^2	0	0	0
Rho	0.67	0.64	0.56
Mills Lambda	0.47***	0.46***	0.43***
Uncensored N	1,282,161	1,950,399	1,420,926

In order to determine whether living in an ethnic enclave has a differential effect on

homeownership and house value by major black immigrant sending country, I also conducted the

analysis with black immigrants disaggregated in New York and Washington D.C. alone (Tables

11 and 12). Compared to the United States as a whole, likelihood of homeownership is higher for

Nigerian immigrants in all three years with the difference larger in 2000 and 2007 than in the 1990 national analysis. Similar to the national analysis, in 2000 and 2007, Nigerians are more likely than non-Nigerian Africans to own their homes[17]. Despite these similarities, the difference between Nigerians and U.S.-born whites is much smaller in New York and Washington D.C. than in the nation as a whole. By contrast, Caribbean immigrants' likelihood of homeownership is only higher than the national analysis in New York and Washington D.C. in 2000 and 2007[18].

There is also variation in the house values of these major immigrant groups in New York and Washington D.C. compared to the U.S. as a whole. In 1990, all immigrants house values were higher in New York and Washington D.C. than at the national level with the exception of Jamaicans. Even after controlling for all independent variables, all groups but immigrants from Nigeria and Trinidad and Tobago owned homes of equivalent value to U.S.-born whites. In 2000, both African groups' coefficients are higher in Table 10 than in the national analysis; however, among Caribbean immigrants, all but those from Trinidad and Tobago have lower house value coefficients than in the national analysis. The pattern is very similar in 2007.

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[17] Significance was measured in New York and Miami using a probit model. Differences between Nigerians and all other Africans were significant in 2000 (Prob>chi^2=0.0005) and 2007(Prob>chi^2=0.0000).

[18] Differences between Jamaicans and all other Caribbean groups were significant in 2000 and 2007 (Prob>chi^2<0.0005)

Table 11. Probability of Homeownership for Household Heads from Major Immigrant Sending
Countries - New York and Washington D.C. (ref. U.S.-born whites)

	1990	2000	2007
Race/Ethnicity (ref. U.S.-born white)			
U.S.-born black	-0.43***	-0.32***	-0.35***
Nigerian-born black	-0.92***	-0.55***	-0.33***
All Other African-born black	-0.70***	-0.81***	-0.72***
Jamaican-born black	-0.15**	0.05	-0.04
Haitian-born black	-0.27**	-0.18**	-0.31***
Trinidad and Tobago-born black	-0.23**	-0.12*	-0.25***
All Other Caribbean-born black	-0.28***	-0.09	-0.21**
Female	-0.02*	-0.03**	0.04***
Age	0.08***	0.09***	0.09***
Age^2	-0.001***	-0.001***	-0.001***
Marital Status (ref. Married, Spouse Present)			
Married, Spouse Absent	-0.52***	-0.53***	-0.68***
Never Married/Single	-0.68***	-0.63***	-0.64***
Divorced	-0.56***	-0.59***	-0.59***
Widowed	-0.24***	-0.30***	-0.33***
Separated	-0.73***	-0.78***	-0.82***
Speaks English at least very well	-0.22**	-0.19***	-0.10
Foreign Education	0.02	-0.23***	-0.11**
Migration Cohort (ref.U.S.-born/Pre-1980)			
1980-1989	-0.61***	-0.20***	-0.16***
1990-1999	---	-0.42***	-0.32***
2000-2007	---	---	-0.80***
Naturalized Citizen	-0.28***	-0.35***	-0.41***
Educational Attainment (ref. 4+ Years College)			
1-3 Years college	-0.08***	-0.04**	-0.08***
High School Diploma/GED	-0.20***	-0.17***	-0.16***
<High School	-0.37***	-0.45***	-0.51***
Household Income	5.93x10^{-6}***	3.30x10^{-6}***	6.43x10^{-6}***
Welfare	-0.60***	-0.69***	-0.81***
Washington D.C.	0.64***	0.36***	0.39***
Suburb	n/a	0.50***	0.52***
Selection Variables			
Number of Children	0.08***	0.10***	0.09***

Table 12. Natural Log of House Value for Household Heads from Major Immigrant Sending Countries - New York and Washington D.C. (ref. U.S.-born whites)

	1990	2000	2007
Race/Ethnicity (ref. U.S.-born white)			
U.S.-born black	-0.29***	-0.22***	-0.21***
Nigerian-born black	-0.26**	-0.27***	-0.28***
All Other African-born black	-0.07	-0.21***	-0.02
Jamaican-born black	-0.07	-0.13***	-0.16***
Haitian-born black	-0.08	-0.11**	-0.12**
Trinidad and Tobago-born black	-0.10*	-0.07*	-0.11*
All other Caribbean-born black	-0.03	-0.13***	-0.12**
Female	0.02**	-0.003	-0.02**
Age	0.01***	0.001	-0.01**
Age^2	-6.30×10^{-5}***	-4.16×10^{-6}	2.43×10^{-5}
Marital Status (ref. Married, Spouse Present)			
Married, Spouse Absent	0.01	-0.04*	0.04
Never Married/Single	-0.16***	-0.21***	-0.11***
Divorced	-0.10***	-0.15***	-0.08***
Widowed	-0.03**	-0.03***	-0.01
Separated	-0.001	-0.09***	0.04
Speaks English at least very well	0.08	0.06	0.04
Foreign Education	-0.03	0.04*	0.05
Migration Cohort (ref.U.S.-born/Pre-1980)			
1980-1989	0.06	0.03	0.08**
1990-1999	---	0.05	0.11**
2000-2007	---	---	0.19*
Naturalized Citizen	0.05	0.06**	0.07*
Educational Attainment (ref. 4+ Years College)			
1-3 Years college	-0.13***	-0.17***	-0.13***
High School Diploma/GED	-0.19***	-0.24***	-0.20***
<High School	-0.24***	-0.31***	-0.26***
Household Income	2.00×10^{-6}***	2.34×10^{-6}***	1.41×10^{-6}***
Welfare	0.09***	0.02	0.15***
Washington D.C.	-0.20***	-0.21***	-0.10***
Suburb	n/a	-0.07***	-0.18***
Wald Chi^2	11,087	22,687	9,356
Prob>Chi^2	0	0	0
Rho	-0.46	-0.25	-0.68
Mills Lambda	-0.27***	-0.15***	-0.44***
Uncensored N	69,312	80,155	56,781

Discussion

Despite socioeconomic differences between U.S. and foreign-born blacks in the United States, very little research has investigated the housing market outcomes of the foreign-born. The overwhelming focus of the existing literature is residential segregation as opposed to whether black immigrants own their homes and, if so, how much these homes are worth. This gap in the literature suggests researchers have implicitly assumed that black immigrants have similar

housing market outcomes to U.S.-born blacks due to racial stratification. However, it is incorrect to assume that racial stratification in the housing market is the only factor determining black immigrants' housing market outcomes and that there is not variation in homeownership and house value among blacks based on nativity.

In this analysis, I find that there is substantial variation in the housing market outcomes of blacks. Caribbean immigrants are more likely to be homeowners than U.S.-born blacks at the national level in all three time periods. Though Caribbean-born blacks are significantly less likely than U.S.-born whites to own their homes, Caribbean immigrants own homes of equivalent or higher value than U.S.-born whites at the national level. The house values of African immigrants are lower than U.S.-born whites, but their house values increase over time nearly reaching the levels of U.S.-born whites and surpassing the values of U.S.-born blacks. Although the results of the national analysis suggests that Caribbean-born blacks are more advantaged than whites in terms of house value, this is predominantly due to their concentration in the New York and Washington D.C. metropolitan areas, two areas with high home values relative to the rest of the nation. When the analysis is limited to New York and Washington D.C., Caribbean-born blacks' homes are worth significantly less than those of U.S.-born whites.

Variations such as these, where black immigrants have greater economic success than comparable U.S.-born blacks, has led some researchers to state that discrimination is not very important in shaping the life chances of U.S.-born blacks (Bashi and McDaniel 1997). However, black immigrant success relative to the U.S.-born does not necessarily indicate that racial stratification is unimportant. There is a consistent black homeownership disparity relative to U.S.-born whites that changes very little over time. Individual and household level characteristics do significantly predict homeownership and house value, however net of these characteristics, all blacks, regardless of nativity remain significantly less likely than U.S.-born whites to own their homes at both the national level and in New York and Washington D.C. in all three time periods. This persistent disparity in homeownership after controlling for all independent variables strongly

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suggest that discrimination plays a role in the housing market outcomes of blacks in the United States regardless of nativity.

Black immigrants' housing market success relative to U.S.-born blacks may instead be evidence that, for foreign-born blacks, immigration characteristics are not a detriment to their housing market outcomes. Unlike other immigrant groups, foreign-born blacks have better housing market outcomes than their U.S.-born counterparts. This advantage relative to U.S.-born blacks is actually higher in the large immigrant settlement areas of New York and Washington D.C. indicating that, similar to Painter and Yu's (2010) findings among Asian Americans, black immigrants are more successful in attaining homeownership in areas with larger concentration of immigrant populations.

Foreign-born blacks may experience less discrimination than U.S.-born blacks in the housing market or they may be able to avoid some of the discrimination experienced by blacks in the housing market by making use of their ethnic specific social network. Based on the effects of controlling for immigration characteristics and the housing market outcomes of the largest immigrant groups in major immigrant settlement areas, the results of this analysis provide some evidence for this second explanation. Immigration characteristics have less of an effect on Caribbean housing market outcomes than those of the African-born even after controlling for English ability and time in the United States, because they are the larger immigrant group; Caribbean immigrants presumably have access to a wider and more diverse ethnic specific social network which they can make use of so that nativity is not a barrier to housing market outcomes. The largest immigrant groups from each region (Nigerians and Jamaicans) average the best housing market outcomes in terms of homeownership probability for each regional group lending further support for this view. Nigerians do have worse housing market outcomes than other African immigrants in 1990, however with population growth, their housing market outcomes surpassed those of other African immigrants in 2000 and 2007. Not only do Nigerians and Jamaicans have higher rates of homeownership than their regional counterparts, their probability

of homeownership is slightly higher in New York and Washington D.C. than in the national analysis. These results indicate that, in some ways, immigration characteristics are a boon to large immigrant groups in major immigrant settlement areas. These groups may benefit from same ethnicity lending or real estate agents or from rotating credit associations.

Black immigrants' ability to at least partially avoid discrimination in the housing market may allow these groups to have higher levels of economic attainment than U.S.-born blacks. Although homeownership and house values have declined recently, homeownership is still a key source of economic well-being. Homeownership is frequently the largest single investment a household makes (Boehm and Schlottmann 2004) and accounts for 42% of household wealth in the United States (Gottschalck 2008). For lower income and minority households in particular, homeownership plays a key role in wealth accumulation (Boehm and Schlottmann 2004) accounting for 80% of black households' median net worth (Gottschalck 2008). Given the importance of homeownership in black household wealth, nativity-based variation in black housing market outcomes has important implications for black wealth research. Black immigrants' higher levels of homeownership and higher house values relative to U.S.-born blacks may leave them better able to accumulate wealth. Given that racial differences in inheritance and other intergenerational transfers have been shown to play an important role in the racial wealth gap (Blau and Graham 1990) , these nativity differences could lead to better socioeconomic outcomes for the next generation.

When researching racial housing market and wealth disparities, there is little acknowledgement of the now substantial foreign-born population among blacks. However if the patterns observed hold over time, as the first generation black immigrant population grows and the second generation reaches adulthood, the average homeownership rates and house values of blacks will increase, but not due to increases in the 3+ generation housing market outcomes. Further research is needed to understand the effect of nativity-based variation in housing market outcomes on the wealth of blacks in the United States. Without doing so, decreases in black-

white housing market and wealth disparities may be attributed to decreased racial discrimination rather than a changing composition of the black population.

Chapter 3: Black Immigrant Residential Segregation: An Investigation of the Primacy of Race in Locational Attainment

Introduction

Sociologists have long viewed residential segregation as a key aspect of assimilation (Charles 2003). Residential patterns and, more specifically, the kinds of locations to which racial minority and immigrant groups are able to gain access, reflect minority and immigrant incorporation into the larger society (Logan and Alba 1993). Despite laws prohibiting discrimination in the housing market, research consistently shows that racial and ethnic segregation still exists at high levels even after controlling for racial differences in socioeconomic characteristics (Alba, Logan et al. 2000; Darden and Kamel 2000; Charles 2003; Iceland and Wilkes 2006; Parisi, Lichter et al. 2011). Due to their continuous segregation in the United States, blacks experience higher levels of poverty than they would in less segregated areas (Ananat 2011), live in potentially adverse neighborhoods (Rosenbaum and Friedman 2001), and are disproportionately likely to receive lower quality public services (Cutler, Glaeser et al. 2008).

Although the consequences of living in highly segregated areas are most severe for low-income individuals, living in racially segregated neighborhoods also disadvantages blacks of higher socioeconomic status. Even as their income and educational attainment increase, blacks remain highly segregated from whites and live in neighborhoods with lower socioeconomic characteristics than their white peers (Alba, Logan et al. 2000). The persistence of black segregation even after controlling for individual characteristics has led researchers to conclude that residential proximity to whites is determined substantially by race (Alba and Logan 1993; Logan and Alba 1993; Darden and Kamel 2000; Freeman 2002).

Due both to their distinct ethnicity and high socioeconomic status relative to U.S.-born blacks, researchers have hypothesized that black immigrants would achieve higher levels of integration than U.S.-born blacks. However, research thus far finds that foreign-born blacks are even *more* segregated from whites than U.S.-born blacks (Iceland and Scopilliti 2008) and Asian and

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Hispanic immigrants (Cutler, Glaeser et al. 2008) due to the combination of their race and nativity. Caribbean immigrants are more evenly distributed (Crowder 1999) than U.S.-born blacks, however, they cluster in enclaves in areas close to U.S.-born blacks and are just as highly segregated from whites as U.S.-born blacks (Crowder 1999; Freeman 2002). African immigrants in the Washington D.C. area are disproportionately found in areas where blacks are in the majority (Friedman, Singer et al. 2005).

These studies of foreign-born blacks' residential patterns provided important insights into black immigrant segregation, however, with the exception of Freeman (2002), the bases for their conclusions stem from aggregate level analyses. Like most segregation research, these studies are based on theories specified at the individual level but rely on aggregate data (Alba and Logan 1992) and primarily measure segregation using the dissimilarity or exposure indices. However, this work may not adequately capture the individual processes determining segregation and therefore risk ecological interference. The locational attainment model, by contrast, avoids some of the drawbacks of traditional segregation measures by using individual level data to predict racial segregation levels (Charles 2003).

The locational attainment model can also be used to measure socioeconomic segregation, an aspect of residential attainment that is much less researched than racial segregation. Previous black immigrant segregation research has focused exclusively on racial segregation, most likely due to its relationship to socioeconomic inequality among U.S.-born blacks. Persistent racial neighborhood disparities and segregation indicate that even when blacks have high levels of socioeconomic status they are unable to move into neighborhoods similar to those of whites with the same socioeconomic status. Middle class blacks do not live in neighborhoods equal to those of middle class whites in terms of neighborhood affluence (Adelman 2005). They also live with more poverty, crime, and unemployment than similar whites and even much poorer whites (Patillo 2005). These patterns accurately describe the relationship between racial and economic segregation among U.S.-born blacks. However, because little research investigates the kinds of

neighborhoods in which black immigrants live it is unclear if it also describes the residential patterns of foreign-born blacks.

Black immigrants are highly segregated from whites, but they are also segregated from U.S.-born blacks, forming ethnic enclaves (Freeman 2002). Foreign-born blacks have higher average socioeconomic status relative to the U.S.-born, therefore, even if they are *racially* segregated, if they live in enclaves they may still be living in neighborhoods with higher average socioeconomic characteristics than U.S.-born blacks. Living in areas with higher average socioeconomic characteristics will provide foreign-born blacks with access to better public services and public school systems than U.S.-born blacks.

Given the possible importance of ethnic enclaves in determining the quality of black immigrant neighborhoods, it is extremely important to measure segregation in multiple types of immigrant settlement areas. Yet previous research has focused only on the national level or one or two major immigrant settlement areas. The geographic focus of previous work allowed researchers to compare the racial segregation of black immigrants at the national level to trends of U.S.-born blacks as well as other foreign-born groups in major immigrant settlement areas. However this research does not address the new immigrant destinations that have emerged in recent years. Changes in immigration patterns have led to the formation of multiethnic metropolitan areas in parts of the country that are not traditional locations for blacks and this dynamic reduces the residential segregation of blacks (Frey and Farley 1996). These new immigrant settlement areas may also benefit immigrants in that the lack of immigration history allows immigrants more freedom to define their social position in these communities (Waters and Jiménez 2005). Segregation patterns of black immigrants may therefore vary by settlement area in ways that have not been captured in previous work.

This paper investigates the segregation level of black immigrants by using the locational attainment model to measure the racial and socioeconomic segregation of black immigrants in both traditional and non-traditional immigrant settlement areas. In doing so, this paper broadens

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the foreign-born black segregation literature in a number of ways. By using the locational attainment model, I determine how individual level characteristics of black immigrants affect their spatial locations. I also assess the extent to which black immigrant residential segregation varies by type of immigrant settlement area and whether they attain neighborhoods that are commensurate with their socioeconomic status. This analysis will shed new light not only on the theories related to residential segregation, but also on our understanding of the socioeconomic consequences of segregation in the United States.

Background

A large sociological literature attempts to explain the persistence of racial and nativity segregation over time, with most research focusing on the spatial assimilation and place stratification theories. Much less discussed is the importance of metropolitan area characteristics on the residential patterns of minorities and immigrants. In this section, I describe each theory and the state of empirical evidence on the theory.

Spatial Assimilation

Spatial assimilation proposes that residential mobility stems from acculturation and social mobility (Alba and Logan 1991) and that an individual attains spatial outcomes based on socioeconomic characteristics (Alba and Logan 1992). This theory predicts that as members of minority groups acculturate and establish themselves in the labor market, they convert their socioeconomic attainment into residential gain by moving to neighborhoods with greater advantages and amenities (Alba 2003). In essence, the spatial assimilation model assumes that group differences in socioeconomic characteristics explain residential segregation.

Research testing this hypothesis finds some evidence in support of spatial assimilation in that socioeconomic status and immigration characteristics play a significant role in the residential outcomes of minority groups. Low SES blacks, Hispanics, and Asians are all more segregated from non-Hispanic whites than their counterparts of higher SES (Iceland and Wilkes 2006). Among the foreign-born, the highly educated are less geographically concentrated and more

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likely to live outside of the top immigrant settlement areas (Bartel 1989) and English fluency increases proximity to whites (Freeman 2000).

For Asians and Hispanics, regardless of nativity, improvements in socioeconomic status are correlated with substantial declines in segregation from whites (Charles 2003). However, controlling for socioeconomic differences between racial and ethnic groups alleviates little of the high overall levels of segregation among blacks (Logan, Alba et al. 1996; Darden and Kamel 2000; Iceland and Wilkes 2006). As blacks' socioeconomic status increases, blacks are able to gain greater proximity to whites, but the starting point is so far behind that of Asians and Latinos that they continue to live in segregated neighborhoods (Freeman 2000). In addition, increases in socioeconomic status have a much smaller effect on blacks' neighborhoods than whites (Logan and Alba 1993) and socioeconomic status has little influence on the high levels of black residential segregation (Darden and Kamel 2000).

Spatial assimilation theory's inability to explain the segregation patterns of blacks also extends to foreign-born blacks. In the case of immigrants, the process of spatial assimilation is affected by increased time in the United States and improved English ability (Charles 2006); immigrants who have lived in the United States longer are expected to live in less segregated neighborhoods (Cutler, Glaeser et al. 2008). However citizenship, a key sign of assimilation because it indicates a commitment to live in the United States permanently, makes virtually no difference in the levels of segregation experienced by foreign-born blacks (Freeman 2002). Also counter to the predictions of spatial assimilation theory, English ability does not decrease segregation levels of blacks (Logan and Alba 1993) and more time in the United States corresponds with *more* black neighbors rather than less (Freeman 2002).

Place Stratification

The failure of socioeconomic characteristics to explain persistent racial segregation in the United States led to the development of the place stratification theory. Place stratification theory argues that minorities are sorted according to their relative standing in society, limiting the ability of even

the socially mobile members of that group to live in the same communities as comparable whites (Alba and Logan 1993). The strength of the ranking of racial groups in the Untied States leaves blacks at the bottom of the hierarchy and, according to this theory, explains their persistently high levels of segregation. Although place stratification theory acknowledges that socioeconomic characteristics significantly influence minority access to less segregated neighborhoods (Crowder, South et al. 2006), it emphasizes the importance of persistent prejudice and discrimination in constraining the residential mobility of minorities (Charles 2003).

Numerous studies investigating explanations for racial segregation have found evidence for place stratification theory. In 1993, Alba and Logan found that residential proximity to whites is determined substantially by race with other individual characteristics having little effect (Alba and Logan 1993). This pattern has not changed over time. SES plays a substantially smaller role in explaining black-white segregation than Asian-white and Hispanic-white segregation, and black-white segregation has not declined relative to Asian-white and Hispanic-white segregation holding other factors constant (Iceland and Wilkes 2006). By and large, socioeconomic status has little influence on the high level of black residential segregation and isolation in the city or suburbs (Darden and Kamel 2000).

There is also some evidence that place stratification theory describes the residential patterns of foreign-born blacks. In the Washington D.C. metropolitan area, African immigrants are disproportionately found in areas where blacks are the majority and are more likely than other immigrant newcomers to settle in neighborhoods where the percent black is much higher than the mean percent black in the area (Friedman, Singer et al. 2005). The results for U.S. and foreign-born blacks call attention to processes of racial stratification because higher status suburban blacks face a double disadvantage. These blacks tend to live in racially segregated communities (which have fewer socioeconomic resources), and even when they live in suburbs, these suburbs have lower socioeconomic status neighbors than the communities of comparable whites (Logan and Alba 1993).

Location

While spatial assimilation and place stratification theories are widely discussed as explanations for segregation patterns in the United States, the effect of immigrant settlement area is much less studied. In part, the lack of research is a consequence of the small proportion of immigrants who settle outside of traditional immigrant settlement areas. However in recent years, immigrants have begun to move away from these metropolitan areas and the growth of the immigrant population in new immigrant settlement areas represents a significant shift in the settlement patterns of immigrants (Waters and Jiménez 2005). There are now signs that immigrants are no longer as likely to choose destinations based on family reunification and ethnic clustering and more likely to base their decision on factors such as jobs and standard of living (Baird, Adelman et al. 2008).

Integration in large immigrant settlement areas is greater today than even two decades ago with education and income predicting much of the segregation patterns observed (Clark and Blue 2004) providing support for the spatial assimilation model. However spatial assimilation is less successful at characterizing the residential choices of recent immigrants in newer immigrant settlement areas (Price, Cheung et al. 2005). One reason spatial assimilation may not describe the segregation patterns outside of major immigrant settlement areas is that the socioeconomic characteristics of these areas and the characteristics of the immigrant groups differ. Immigrants to new destinations are generally heterogeneous in terms of individual traits and characteristics, but all of the metropolitan areas tend to be places with well developed and growing low skill service sectors (Leach and Bean 2008). Most research in these new immigrant settlement areas focuses on Hispanic immigrants, many of whom moved to these areas due to the abundance of low skilled employment. However, among foreign-born blacks, Africans are more likely than Caribbean immigrants to live in these settlement areas. Africans are one of the most highly educated ethnic groups in the United States and therefore are unlikely to have moved to these areas in search of unskilled jobs. Given the large differences in human capital between the majority of immigrants and African-born blacks in new immigrant gateways, foreign-born blacks'

residential patterns may vary substantially from the segregation levels observed among Hispanics in these new immigrant settlement areas.

Data and Methods

To determine black immigrant segregation, I use individual (Public Use Micro Sample [PUMS]) and aggregate (American FactFinder) data from the 2006-2010 pooled American Community Survey. I include individual level measures for men and women who are 18 and over who live in the top five settlement areas for Africans and the top five settlement areas for Caribbean immigrants. Because there is some overlap between African and Caribbean settlement areas, I analyze segregation in a total of 8 metropolitan areas: Atlanta, Ft. Lauderdale, Houston, Miami, Minneapolis, New York, Washington D.C., and West Palm Beach.

To determine black immigrant segregation, I use the locational attainment model (Alba and Logan 1992). This method uses data from aggregate and individual level census data to build a correlation matrix. I calculate the correlation between the dependent and independent variables from tract level data and the correlations among independent variables are estimated from the individual level data. I then combine the correlations from the aggregate and individual data into a common matrix to estimate the ordinary least squares regression models for each metropolitan area. The correlation between dependent and independent variables and among independent variables can be combined into one matrix because individual (PUMS) data is a sample from which the tract (American FactFinder) data are constructed and therefore the aggregate and individual level data sets are consistent (Alba, Logan et al. 2000). It is then possible to estimate the regression models from this correlation matrix because all relevant means, standard deviations, and sample size are known (Hanushek and Jackson 1977). As in Alba and Logan (1992), I take the means and standard deviations from the aggregate level data because it is based on the larger sample and therefore provides more efficient estimates. However, the N used to calculate measures of statistical significance (total population in the metropolitan area) is drawn from the individual level data. This is the more conservative approach, but, more

importantly, it is also most appropriate for this analysis because the interest lies in the analysis of individual rather than aggregate processes.

The resulting regression model uses the following equation:

$$Y_{ij} = \alpha + \beta_1 X_{1ij} + \beta_2 X_{2ij} \ldots + \varepsilon_{ij}$$

The subscript j represents the census tracts within each metropolitan area and the subscript i represents the individuals within each census tract. In this analysis, there are three dependent variables: the percent in the census tract that is non-Hispanic U.S.-born white[19], percent of the census tract that has attained at least four years of college, and the percent of the census tract whose income is at least three times the poverty line. All three dependent variables, specified as Y_{ij}, are aggregate rather than individual level characteristics, therefore they are assumed to be constant across i for any value of j.

Unlike most other locational analyses, I do not estimate separate models for the major racial/ethnic groups under consideration. The Hispanic category includes individuals of all races in the aggregate data, therefore if race/ethnicity were included as a categorical variable there would be overlap between racial/ethnic categories. For this reason, previous research estimates models separately for each major racial/ethnic group (white, black, Asian, Hispanic). However, due to of the small size of the foreign-born black population, aggregate level data on socioeconomic characteristics is unavailable for this group, making it impossible to run a separate black immigrant regression model. As a result, in this analysis I have excluded the Hispanic category because there are Hispanics present in both the black and Asian populations. Consequently, the race/immigrant variable includes U.S.-born non-Hispanic whites, U.S.-born blacks, foreign-born blacks, U.S.-born Asians, and foreign-born Asians.

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[19] I also conducted analyses using all U.S.-born whites (Hispanic and non-Hispanic) and there is very little difference between those results and those presented.

In addition to race/nativity, I control for individual level characteristics that play a role in the segregation levels of minority groups. The spatial assimilation model predicts that the segregation of minority groups is largely attributable to differences in socioeconomic characteristics. Based on this theory, segregation decreases as education and income increase and as immigrants spend more time in the United States and increase their English ability. Accordingly, I include educational attainment, income to poverty ratio, English ability, and naturalized citizenship. I use the income to poverty ratio rather than income because individual income is not available for those 18 and over at the aggregate level[20]. I also include age and marital status. The coefficients in this equation can be interpreted as a form of standardized exposure index for people with particular background characteristics (Logan, Alba et al. 1996).

Results

Descriptive Statistics

Tables one and two present the descriptive statistics by region for each metropolitan area and tables three and four for individuals *in* each metropolitan area. While U.S.-born non-Hispanic whites make up the majority of the population in the nation as a whole in this survey period, U.S.-born non-Hispanic whites are the majority in only three of the eight metropolitan areas included in this analysis (Table one). In fact, less than 1/3 of the population in two metropolitan areas (Miami, and New York) is non-Hispanic white. U.S.-born blacks, by contrast, comprise less than 10% of the populations in two of the eight metropolitan areas under investigation. It is important to note these vast differences in the racial makeup of each metro area because areas with more blacks are more likely to have poor populations that are segregated across places (Lichter, Parisi et al. 2012). In addition, the greater the percentage of blacks in an area, the more likely it is that whites will not know about that neighborhood (Krysan and Bader 2009), making whites less likely to live in these neighborhoods.

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[20] I use the income to poverty ratio rather than household income because I am measuring segregation at the individual rather than household level. Measuring segregation at the household level assumes a racially homogenous household, which is inaccurate given that 10% of married couples had partners of different race or ethnic origin Lofquist, D., T. Lugaila, et al. (2012). Households and Families: 2010. Washington D.C., U.S. Census Bureau. This proportion of racially heterogeneous couples is not consistent across racial/ethnic groups.

Table 1. Race/Nativity Characteristics of Metropolitan Areas by Region, 2006-2010 pooled aggregate ACS (Adults age 18+)

	African to Caribbean ratio (2006-2010 pooled ACS, PUMS)	% U.S.-born non-Hispanic white	% U.S.-born black	% Foreign-born black	% U.S.-born Asian	% Foreign-born Asian
East						
New York	0.16	30.8	13.6	9.0	1.7	10.2
Washington D.C.	2.74	48.7	20.8	4.1	1.3	7.8
Midwest						
Minneapolis	21.98	81.0	4.0	2.1	0.9	4.1
West						
Houston	2.04	39.9	16.2	1.4	0.9	6.1
South						
Atlanta	0.90	51.6	27.8	3.2	0.6	4.3
Ft. Lauderdale	0.02	42.1	11.9	11.7	0.4	2.8
Miami	0.02	12.6	11.0	6.8	0.2	1.5
West Palm Beach	0.01	59.8	8.3	6.3	0.3	2.0

As expected, the foreign-born black proportion of each metropolitan area is quite small, making up less than 5% of the population in half of the top black immigrant settlement areas. In New York and Ft. Lauderdale, however, they make up a substantial portion of the population (9% and 11.7% respectively), numbers that are very close to that of the U.S.-born black population in those metropolitan areas. The percent foreign-born black varies by African to Caribbean ratio in the metropolitan area; the percent of the population that is foreign-born black is generally higher in areas where Caribbean immigrants make up the majority of the black immigrant population. Among the Asian population, there are stark differences between U.S. and foreign-born populations. While the foreign-born population is substantially larger than the foreign-born black population in nearly all metropolitan areas, the U.S.-born Asian population is much smaller indicating that U.S.-born Asians are settling in different metropolitan areas than the foreign-born or may be more likely than foreign-born Asians to be settled outside of metropolitan areas. It could also reflect immigrant to native ratios overall

Table 2. Socioeconomic Characteristics of Metropolitan Areas by Region, 2006-2010 pooled aggregate ACS (Adults age 18+)

	% Speaks English at least very well	% Married	% College+	% Income to poverty ratio>=3
East				
New York	75.8	47.5	32.4	51.9
Washington D.C.	88.8	54.8	42.9	71.2
Midwest				
Minneapolis	94.4	56.9	34.6	64.7
West				
Houston	79.7	57.5	25.9	51.7
South				
Atlanta	91.0	55.6	32.0	56.9
Ft. Lauderdale	83.2	51.2	25.0	53.5
Miami	59.3	50.2	23.9	41.5
West Palm Beach	86.0	54.0	29.4	55.5

The eight metropolitan areas are very similar in terms of socioeconomic characteristics (Table two). Although there is some variation, the vast majority of adults in all metro areas speak English at least very well; Miami is the only metropolitan area where less than 3/4 of the population speaks English at least very well. Educational attainment varies by metropolitan area, with the highest proportion (43%) in Washington D.C. and the lowest in Ft. Lauderdale, Houston, and Miami where only about ¼ have a college degree. The proportion of the population with an income to poverty ratio of three or more is also lowest in these metropolitan areas.

Although it is possible to determine the educational attainment and income to poverty ratio of most race/nativity groups using the aggregate data, most likely due to the small size of the population, it is impossible to do so for black immigrants. Because of this, I provide socioeconomic characteristics by race/nativity group using individual level data (Tables three and four). Overall, the educational attainment and income to poverty ratio of each race/nativity group are similar across metropolitan areas. However, again, there are differences in foreign-born black socioeconomic characteristics by metropolitan area. In areas where the black immigrant population is predominantly Caribbean (Atlanta, Ft. Lauderdale, Miami, New York, and West

Palm Beach), percent with a college degree is closer to that of U.S.-born blacks (15-19%) than U.S.-born whites (33-50%).

Despite the differences in educational attainment among black immigrant settlement areas, there is very little difference in terms of the income to poverty ratio. This finding mirrors the results of Chapter 1 as well as previous research showing that, while Caribbean-born blacks are not as highly educated as the African-born, they earn higher wages (Butcher 1994; Darity Jr., Guilkey et al. 1996; Corra and Kimuna 2009). The percent of the foreign-born black population with an income to poverty ratio of 3 or more mirrors that of U.S.-born blacks. Both foreign and U.S.-born Asians, however, have income to poverty ratios that are very similar to that of whites.

Table 3. Percent Completed at least College by Race/Nativity, 2006-2010 pooled individual level ACS (Adults age 18+)

	U.S.-born non-Hispanic white	U.S.-born black	Foreign-born black	U.S.-born Asian	Foreign-born Asian
East					
New York	50.63	18.99	20.66	55.92	38.33
Washington D.C.	56.72	26.52	36.02	59.71	59.09
Midwest					
Minneapolis	35.81	15.40	24.12	24.60	40.76
West					
Houston	38.73	18.60	39.36	44.44	51.44
South					
Atlanta	39.48	24.24	32.87	44.88	50.96
Ft. Lauderdale	33.53	18.51	19.05	49.04	44.94
Miami	44.50	14.20	15.66	42.31	47.06
West Palm Beach	37.04	15.63	14.88	31.30	51.18

Table 4. Percent with an Income to Poverty Ratio of Three or More, 2006-2010 pooled individual level ACS (Adults age 18+)

	U.S.-born non-Hispanic white	U.S.-born black	Foreign-born black	U.S.-born Asian	Foreign-born Asian
East					
New York	73.45	45.57	51.94	66.49	49.41
Washington D.C.	85.55	66.23	59.85	81.76	74.65
Midwest					
Minneapolis	73.16	36.33	32.04	49.53	57.04
West					
Houston	74.20	44.25	49.09	67.95	61.09
South					
Atlanta	71.65	48.63	46.75	65.32	57.55
Ft. Lauderdale	66.89	42.73	39.88	64.75	57.24
Miami	70.69	37.94	55.78	61.71	55.78
West Palm Beach	68.46	36.31	34.25	64.61	61.43

Locational Attainment Analyses

Tables five through seven present the locational attainment model results for percent U.S.-born non-Hispanic white, percent with a college degree or higher, and percent with an income to poverty ratio of three or more respectively[21]. The coefficients presented should be interpreted as a form of standardized exposure index (Logan, Alba et al. 1996): the probability that members of the group have residential contact with the group in the dependent variable (Alba and Logan 1993). In Table five, I find that foreign-born blacks' segregation patterns vary by region. On the east coast and in the south, black immigrants' exposure to whites is very similar to that of U.S.-born blacks with the exception of the New York and Miami metropolitan areas; on average all blacks are 30% less likely than whites to be exposed to other whites. However, in the Midwest, black immigrants' segregation patterns mirrors that of U.S.-born Asians (-16). In most southern metropolitan areas, black immigrants are nearly as highly segregated from whites as U.S.-born

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[21] The full models of all locational attainment analyses are presented in Appendix five.

blacks. Houston and Miami are outliers in that black immigrants are at least as likely as whites to

be exposed to other whites in their census tract in all four metropolitan areas.

Table 5. Locational Attainment Model Predicting Percent U.S.-born non-Hispanic white in Census Tract (ref. U.S.-born non-Hispanic white)

	U.S.-born black	Foreign-born black	U.S.-born Asian	Foreign-born Asian	R^2	N
East						
New York	-26.15***	-8.75***	-5.58***	-2.23***	0.33	299,276
Washington D.C.	-32.78***	-28.36***	-7.53***	-9.43***	0.30	197,564
Midwest						
Minneapolis	-21.76***	-15.68***	-13.75***	-8.55***	0.22	81,622
West						
Houston	-17.84***	0.23	-5.93	28.73	0.35	159,018
South						
Atlanta	-33.63***	-27.42***	-6.31***	-6.49***	0.35	168,817
Ft. Lauderdale	-25.93***	-28.54***	-7.21***	-0.002***	0.27	64,747
Miami	-3.21***	12.59***	4.22***	16.15***	0.17	82,681
West Palm Beach	-25.96***	-12.87***	0.48	-0.33	0.34	55,861

Regression models run separately for each metropolitan area.
In addition to race/nativity, all models control for educational attainment, income to poverty ratio, marital status, English ability, age category, and citizenship

Table six presents exposure to individuals who have completed at least four years of college in

each census tract. What is immediately clear is that U.S.-born blacks are significantly less likely

than whites to be exposed to those with at least a college education in all metropolitan areas

even after controlling for individual-level socioeconomic characteristics and they are the only

race/nativity group for which this is true. Unlike the relative consistency of U.S.-born blacks'

coefficients, black immigrants' exposure to those with at least a college degree varies

dramatically by metropolitan area. In Ft. Lauderdale, black immigrants are 12% less likely than

whites to be exposed to college graduates, but are 20% *more* likely in Houston.

Black immigrants' exposure to those with at least a college degree seems to vary almost

exclusively by the African to Caribbean ratio among foreign-born blacks in the metropolitan area.

In areas where the foreign-born population is predominantly African-born (Houston, Minneapolis,

and Washington D.C.), black immigrants are either significantly more likely to live in a census

tract where they are exposed to the college educated than whites (Houston) or only 2% less likely

after controlling for individual level characteristics. The segregation levels in areas with a predominantly African foreign-born population are similar to, but the coefficients are still lower than, that of foreign-born Asians.

Table 6. Locational Attainment Model Predicting Percent Completed at least College in Census Tract (ref. U.S.-born non-Hispanic white)

	U.S.-born black	Foreign-born black	U.S.-born Asian	Foreign-born Asian	R^2	N
East						
New York	-8.04***	-1.32***	4.21***	3.21***	0.30	299,276
Washington D.C.	-10.09***	-2.23***	7.22***	8.26***	0.26	197,564
Midwest						
Minneapolis	-3.47***	-1.77***	-3.03***	0.98*	0.16	81,622
West						
Houston	-0.83***	20.02***	152.16***	43.25***	0.43	159,018
South						
Atlanta	-2.33***	-0.18	2.87***	5.75***	0.22	168,817
Ft. Lauderdale	-9.01***	-11.78***	0.17	-5.57***	0.26	64,747
Miami	-9.66***	-7.36***	0.47	-0.51	0.26	82,681
West Palm Beach	-9.47***	-4.47***	3.97***	2.69***	0.27	55,861

Regression models run separately for each metropolitan area.

In addition to race/nativity, all models control for educational attainment, income to poverty ratio, marital status, English ability, age category, and citizenship

Exposure to individuals with an income to poverty ratio of three or more (Table 5) follows very similar patterns as the results in Table 4. U.S.-born blacks are significantly less likely than whites to live in census tracts where they would be exposed to individuals of higher income in all metropolitan areas except Los Angeles. Here again, foreign-born blacks living in areas where the black immigrant population is predominantly African are highly significantly more likely than whites to be exposed to high income individuals in their census tract. Foreign-born blacks' coefficients in these areas are closer to that of foreign-born Asians than that of U.S.-born blacks.

Table 7. Locational Attainment Model Predicting Percent with an Income to Poverty Ratio of Three or More in Census Tract (ref. U.S.-born non-Hispanic white)

	U.S.-born black	Foreign-born black	U.S.-born Asian	Foreign-born Asian	R^2	N
East						
New York	-5.12***	1.58***	3.74***	1.58***	0.34	299,276
Washington D.C.	-4.26***	-1.74***	2.92***	6.59***	0.27	197,564
Midwest						
Minneapolis	-11.0***	-9.69***	-3.88***	-1.75***	0.25	81,622
West						
Houston	-3.11***	17.26***	130.7***	44.19***	0.50	159,018
South						
Atlanta	-9.06***	-3.43***	0.26	10.13***	0.29	168,817
Ft. Lauderdale	-12.18***	-14.79***	1.09	-0.001***	0.28	64,747
Miami	-7.88***	-6.07***	1.05	-0.37	0.29	82,681
West Palm Beach	-12.74***	-3.02***	4.72**	5.39***	0.30	55,861

Regression models run separately for each metropolitan area.

In addition to race/nativity, all models control for educational attainment, income to poverty ratio, marital status, English ability, age category, and citizenship

Conclusions

Recent research has lamented that, unlike Asian and Hispanic immigrant groups, any group racially defined as black continue to face barriers to accessing neighborhoods comparable to those of whites (Charles 2003). However, particularly in the case of black immigrants, research thus far has focused on racial rather than socioeconomic segregation. This focus indicates an assumption that racial segregation means the same thing for U.S. and foreign-born blacks and that, by and large, racial stratification will explain black immigrant neighborhood characteristics. However the results of this analysis finds that black immigrant residential outcomes do not directly follow that of U.S.-born blacks, nor are they consistent with previous black immigrant racial segregation findings.

In terms of racial segregation, after controlling for individual level characteristics I find that foreign-born blacks are *less* segregated from whites than U.S.-born blacks, a departure from the findings of previous work. While U.S.-born blacks are highly segregated from U.S.-born non-

Hispanic whites in all metropolitan areas, the same is not true of foreign-born blacks. However, there is variation in the level of black immigrant exposure to whites. In Miami and Houston, black immigrants are actually just as likely or significantly more likely to be exposed to whites than other whites after controlling for educational attainment, income to poverty ratio, English ability, naturalized citizenship, age group, and marital status. These findings indicate that previous work finding high levels of foreign-born black racial segregation may actually be due to group level differences in individual level socioeconomic characteristics.

Metropolitan areas in which foreign-born blacks have positive coefficients are areas where the foreign-born black population is predominantly African. Although I control for education, differences in racial segregation by African to Caribbean ratio may be attributable to some aspects of education that I do not capture. For example, because Africans are, on average, highly educated, they may interact with lending and real estate agents differently than those with lower levels of education. In addition, they may have a different type of social network than other groups because of their high levels of education, which may allow them to move into neighborhoods they may otherwise have been unable to access.

The above results describe the racial segregation patterns of black immigrants in all metropolitan areas with the exception of Miami. Miami may be an outlier because of the small size of the U.S.-born non-Hispanic white population in the metropolitan area. Analyses have shown that indices are sensitive to the scale or mean population size of small areas such as census tracts (Simpson 2007). Exposure measures are asymmetrical since the probability of a member of one group interacting with the member of another group is a function of the relative size of the two groups as well as their residential distributions (Crowder 1999). In Miami there is less differences in the relative size of whites and black immigrants compared to other metropolitan areas that may, at least in part, explain the lower levels of minority segregation from U.S.-born non-Hispanic whites.

Overall, the results of the racial segregation analysis do not provide adequate evidence for the spatial assimilation model. After controlling for socioeconomic characteristics, black immigrants

are still highly segregated from whites in all but four metropolitan areas. This is in contrast to the findings of foreign-born Asians who are much better able to translate their socioeconomic characteristics into more racially integrated neighborhoods.

Although spatial assimilation is an insufficient explanation for foreign-born blacks' segregation levels, racial stratification does not adequately describe black immigrant segregation patterns either. If racial stratification truly drove the results of this analysis, foreign-born blacks' results would largely mirror that of U.S.-born blacks. However, in some metropolitan areas, predominantly in the west, foreign-born blacks are significantly more likely to be exposed to U.S.-born non-Hispanic whites than even U.S.-born non-Hispanic whites after controlling for socioeconomic characteristics.

The results of this analysis indicate that the primary explanation for black immigrant racial segregation patterns seems to be location. Although there is some link between region and racial segregation patterns, the more important aspect of location is that in areas where the foreign-born black population is predominantly African-born, black immigrants experience less racial segregation. This may either be due to characteristics of the area itself or due to characteristics of the immigrants who settled there. Because these areas do not have a long history of immigration or segregation, there may be less resistance to integration. Alternatively, Africans' high levels of education and English ability may provide Africans with a social network that provides them access to more racially integrated and/or higher quality neighborhoods.

Unlike racial segregation, socioeconomic segregation has received little attention in the black immigrant literature. However, integration means more than the racial composition of neighborhoods. An important aspect of integration is the ability of minority groups to gain access to high quality neighborhoods. Previous research has focused on racial segregation because of its association with a neighborhood's socioeconomic characteristics and I do find a relationship between the racial and socioeconomic characteristics of black neighborhoods. Like the U.S.-born, the racial segregation of foreign-born blacks also seems to be related to their

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socioeconomic segregation. In the metropolitan areas in which foreign-born blacks have a positive coefficient in the racial segregation analysis, foreign-born blacks are also significantly more likely than whites to be exposed to those with at least a college degree or with an income to poverty ratio of three or more.

Black immigrants experience less socioeconomic segregation than U.S.-born blacks, but do not consistently reach parity with whites or the high levels of exposure to high SES neighbors as foreign-born Asians. Although the results provide some evidence for the assumption of racial segregation predicting socioeconomic segregation, it is not the full story. The level of racial segregation does not directly relate to socioeconomic segregation patterns. All blacks experience less socioeconomic segregation than racial segregation in all metropolitan areas. In addition, black immigrants' coefficients are positive in more metropolitan areas in the socioeconomic analyses than the racial analyses and when black immigrants' coefficients are positive, they are much larger in the socioeconomic analyses than in the racial segregation analyses.

Given these findings, there is not adequate evidence for either the spatial assimilation or place stratification models in determining socioeconomic segregation. Just as in the racial segregation analysis, location seems to be the most important factor in the socioeconomic characteristics of foreign-born blacks' neighborhoods. In 1/4 of the metropolitan areas, black immigrants are more likely than whites to live in neighborhoods with positive socioeconomic characteristics. The only metropolitan area where this is true for both socioeconomic indicators is Houston where the majority of the black immigrant population is African.

This analysis shows that African and Caribbean immigrants do not in fact live in more segregated neighborhoods than U.S.-born blacks and that African and Caribbean immigrants' neighborhoods also have very different racial and socioeconomic characteristics. It also provides further evidence that we cannot simply accept an assimilation model, because each new minority group is distinct (Logan, Alba et al. 1996) and theories should be expanded to reflect the variation in experiences. One way in which this can be done is by incorporating the importance of location on

residential patterns. This analysis shows that location plays an important role in the segregation of foreign-born blacks. While some research has explored the importance of location in examining the residential patterns of immigrants in new immigrant settlement areas, this research has focused on low skilled Hispanic immigrants. Future research should expand this work to include high skilled groups to determine whether the differences between the results presented here and previous work on Hispanics are due to differences in skill level or differences in immigrant reception in these new immigrant gateways.

Conclusion

In this dissertation I investigate racial stratification and immigrant incorporation through the lens of different aspects of black immigrant economic achievement. I examine more than one type of economic achievement to give a well-rounded view of how these immigrants are faring in the United States. The results of the three chapters point to a necessity of expanding racial stratification and immigrant incorporation/assimilation theory to reflect the experiences of this group. Like U.S.-born blacks, foreign-born blacks are largely disadvantaged relative to non-Hispanic U.S.-born whites and, in some cases, the combination of their race and nativity leaves these groups disadvantaged relative to U.S.-born blacks.

This disadvantage is particularly striking in Chapter 1. Black immigrants earn significantly lower wages than U.S.-born blacks in all three time periods after controlling for selection into full-time employment and limiting the analysis to the major immigrant settlement areas of New York and Miami. The results show that previous black immigrant wage findings were not accurate because of black immigrants' geographic concentration in high wage areas where they are also more likely to work full-time. Rather than having a wage advantage in the labor market, black immigrants seem to be *more* disadvantaged than U.S.-born blacks, a disparity that is not explained by differences in socioeconomic characteristics. Despite qualitative findings that employers prefer black immigrants to U.S.-born blacks (Foner 1985; Deaux, Bikmen et al. 2007), black immigrants seem to experience more rather than less discrimination in the labor market than the U.S.-born.

Despite black immigrants' low wages relative to U.S.-born blacks, the results of chapter two show that the foreign-born have better housing market outcomes than U.S.-born blacks, and in some cases U.S.-born whites. These results have direct implications on spatial assimilation theory as well as structural barriers to homeownership. In spatial assimilation theory, immigrants' housing market outcomes are expected to improve with decreased contact with those of the same ethnicity. However the results of chapter two show that an immigrant social network may actually be a benefit rather than a disadvantage in the housing market. Nigerians and Jamaicans,

the largest African and Caribbean black immigrant groups, average higher probabilities of homeownership than their regional counterparts and their probability of homeownership is higher in major immigrant settlement areas than in the nation as a whole. This is in line with more recent housing market research on Asians and Hispanics showing that immigrants are more successful in attaining homeownership in areas that have larger concentrations of immigrant populations (Painter and Yu 2010).

Although living in large immigrant settlement areas is a benefit for foreign-born blacks, Jamaicans are the only group to be just as likely as U.S.-born whites to own their homes after controlling for all individual level characteristics and most black immigrants' homes are worth significantly less than whites. These racial differences show that, despite black immigrants' better housing market outcomes, discrimination may still play an important role in shaping the economic outcomes of blacks in the United States. Immigrants' better housing market outcomes than the U.S.-born, especially in major immigrant settlement areas, may instead indicate that black immigrants use their same nativity social network to avoid discrimination they would otherwise experience in the United States. By avoiding this discrimination, black immigrant homes are consistently worth more than those of U.S.-born blacks. Black immigrants' high home value not only reflects the socioeconomic characteristics of the individual homeowner, but also the socioeconomic characteristics of the neighborhoods to which black immigrants are able to gain access.

The results of Chapter three show that black immigrants are indeed more racially and socioeconomically integrated than U.S.-born blacks. Based on the African to Caribbean ratio among foreign-born blacks, African-born blacks experience the least segregation among all three black groups. With the exception of Washington D.C., black immigrants experience very little (if any) racial segregation in metropolitan areas where Africans make up the majority. They are also consistently more likely than whites to have neighbors with at least a college education and an income to poverty ratio of at least three.

Neither spatial assimilation nor place stratification explain these results, pointing to the necessity of finding a new way to discuss segregation in the United States. Just as in chapter two, geographic concentration may be playing a role in the residential patterns of African-born blacks. African immigrants may be able to avoid being steered toward particular neighborhoods by utilizing their same ethnicity social network. The same nativity social network may be more valuable for Africans than the Caribbean-born because of their socioeconomic characteristics, which may provide them with higher SES contacts, a benefit to them in the housing market.

Africans' ability to live in areas with more college graduations and higher average income provides residents with more or better public services and better quality public schools, all of which can have a substantial effect on the assimilation patterns of the second generation. Second generation Africans, therefore, may not only be advantaged by their parents' high levels of education, but also advantaged relative to both U.S.-born and second-generation Caribbean immigrants because of the quality of their neighborhoods.

The finding that black immigrants may experience more discrimination than U.S.-born blacks (or may need to use same ethnicity contacts to avoid discrimination) in both the labor and housing markets has implications on the ongoing debate surrounding affirmative action and the primary purpose of this legislation. If affirmative action is mainly meant to reduce racial disparities and prevent current racial discrimination, then black immigrants should be eligible for the benefits of this legislation. Black immigrants earn significantly lower wages than U.S.-born blacks (who earn one of the lowest average wages of any racial/ethnic group) and experience more discrimination in the labor market than U.S.-born blacks because of the combination of their race and nativity. However, some researchers argue that black immigrants are different from 3+ generation blacks who historically contended with discrimination and slavery in the United States leaving them at a distinct disadvantage in the labor market. If affirmative action is primarily meant to act as a form of reparation for these historical experiences rather than current experiences with discrimination, then black immigrants should not be included. The affirmative action debate currently references

both explanations for the necessity of the legislation and, until recently when the size of the black immigrant population became substantial, there was no reason to make these kinds of distinctions. With the growth of the black immigrant population and the use of black immigrants to satisfy diversity requirements, these distinctions become more important for the future of the program.

The socioeconomic attainment of black immigrants in the United States also points to the necessity of developing new theories to explain the mechanisms driving their outcomes. Although it is impossible to directly measure given the data available, discrimination seems to play a key role in black immigrants' labor and housing markets. The importance of discrimination and the ways in which black immigrants are able to avoid discrimination are areas of research that require much more attention. The strength of the structural barriers to advancement or the ways in which black immigrants are able to avoid these barriers is still unclear. More extensive qualitative research is necessary to explore black immigrants' experiences with discrimination in the labor and housing markets as well as any strategies for avoiding discrimination they might otherwise experience.

Appendix

Appendix 1 - Chapter 1. MLE with Heckman Correction and Africans Combined

	Men			Women		
	1990	2000	2007	1990	2000	2007
Ethnicity (U.S. black)						
All Africans	-0.09***	-0.04*	-0.06**	-0.04	0.05**	0.02
British Caribbean	-0.05*	0.01	0.01	-0.10***	0.02	0.02
French Caribbean	-0.14***	-0.09***	-0.08**	-0.17***	-0.05*	-0.06*
Other Caribbean	-0.07	-0.01	-0.02	-0.03	0.05	0.001
Number of Children	0.001	-0.004*	-0.001	0.004*	-0.02***	-0.02***
Number of Children<5	-0.01**	-0.004	0.01	0.11***	0.07***	0.07***
Marital Status (Married, Spouse Present)						
Married, Spouse Absent	-0.02	-0.07***	-0.02	-0.0003	-0.05**	-0.07***
Separated	0.01	-0.10***	-0.02	-0.06***	-0.07***	-0.12***
Divorced	0.02*	-0.08***	-0.006	-0.05***	-0.05***	-0.06***
Widowed	0.04*	-0.09***	0.03	-0.02	-0.02**	-0.04**
Never Married/Single	0.03**	-0.10***	-0.01	0.001	-0.06***	-0.08***
Educational Attainment (4+ Years College)						
1-3 Years College	-0.28***	-0.31***	-0.32***	-0.35***	-0.33***	-0.36***
High School Diploma/GED	-0.36***	-0.44***	-0.42***	-0.43***	-0.44***	-0.50***
<High School Diploma	-0.40***	-0.56***	-0.43***	-0.42***	-0.52***	-0.59***
Work Experience	0.03***	0.02***	0.02***	0.02***	0.02***	0.02***
Work Experience Squared	-0.0004***	-0.0001***	-0.0002***	-0.0003***	-0.0002***	-0.0002
Does not speak English at least very well	-0.12***	-0.08***	-0.14***	-0.10**	-0.08***	-0.11***
Foreign Education	-0.05**	-0.12***	-0.16***	-0.06**	-0.12***	-0.12***
Years in the United States	0.003*	-0.001	0.0003	0.003*	-0.00002	0.0001
Naturalized Citizen	0.04*	0.05***	0.06***	0.03	0.02	0.01
Adjusted R^2	---	---	---	---	---	----
Wald Chi^2	10,432	16,784	7,453	10,831	17,991	11,186
Prob>Chi^2	0	0	0	0	0	0
Rho	-0.90	-0.42	-0.80	-0.93	-0.72	-0.70
Mills Lambda	-0.60***	-0.23***	-0.53***	-0.63***	-0.42***	-0.41***

Appendix 2 - Chapter 1. Selection Equations - Men

	Africans by Colonial Heritage			All Africans Combined		
	1990	2000	2007	1990	2000	2007
Metro/State Unemployment Rate	-0.05***	-0.06***	-0.04***	-0.04***	-0.06***	-0.04***
State dummy	-0.04	0.03	-0.08	-0.0004	0.01	0.02
FLFP in home country	4.61×10^{-3}**	0.01**	0.008	0.004**	0.01**	0.01**
Unearned Household Income	-1.10×10^{-7}***	-1.24×10^{-7}***	-1.57×10^{-7}***	-9.17×10^{-8}***	-9.86×10^{-8}***	-1.43×10^{-7}***
Ethnicity (U.S. black)						
British African	-0.24***	-0.55**	-0.54***	-0.16**	-0.36***	-0.28***
French African	-0.002	-0.37**	-0.67***			
Other African	-0.28***	-0.54***	-0.61***			
British Caribbean	0.09*	-0.26***	-0.31***	0.05	-0.11**	-0.01
French Caribbean	0.06	-0.27***	-0.30***	0.09	-0.19***	-0.07
Other Caribbean	0.12	-0.35***	-0.32**	0.17	-0.14	0.004
Number of Children	-0.06***	-0.03***	-0.02***	0.03***	0.02***	0.03***
Number of Children <5	-0.26***	-0.20***	-0.22***	-0.03***	-0.01	-0.02
Marital Status (Married, Spouse Present)						
Married, Spouse Absent	-0.19***	-0.11***	-0.06**	-0.42***	-0.47***	-0.34***
Separated	-0.12***	-0.07***	-0.06***	-0.49***	-0.41***	-0.37***
Divorced	-0.10***	-0.09***	0.08***	-0.40***	-0.35***	-0.32***
Widowed	-0.15***	-0.16***	-0.17***	-0.48***	-0.53***	-0.43***
Never Married/Single	-0.18***	-0.10***	-0.09***	-0.65***	-0.57***	-0.54***
Educational Attainment (4+ Years College)						
1-3 Years College	-0.01	-0.09***	-0.16***	-0.16***	-0.14***	-0.18***
High School Diploma/GED	-0.33***	-0.40***	-0.40***	-0.40***	-0.42***	-0.40***
<High School Diploma/GED	-0.80***	-0.90***	-0.91***	-0.79***	-0.78***	-0.83***
Estimated Years of Work Experience	0.02***	0.01***	0.02***	-0.001	0.01***	0.02***
Estimated Years of Work Experience^2	-0.001***	-0.001***	-0.001***	-0.0001*	-0.0004***	-0.001***
Does not speak English at least very well	0.04	-0.06*	-0.02	-0.01	0.0004	0.05
Foreign Education	0.01***	0.23***	0.24***	-0.04	0.13***	0.14***
Years Lived in the U.S.	0.01***	0.02***	0.02***	0.01***	0.01***	0.01***
Naturalized Citizen	0.03	0.16***	0.24***	0.03	0.09***	0.14***

Appendix 3 - Chapter 1. Selection Equations - Women

	Africans by Colonial Heritage			All Africans Combined		
	1990	2000	2007	1990	2000	2007
Metro/State Unemployment Rate	-0.05***	-0.07***	-0.06***	-0.06***	-0.07***	-0.01***
State dummy	-0.04***	0.04***	0.03	-0.02*	0.04***	-0.04***
FLFP in home country	0.01**	0.01**	0.01**	0.004**	0.004**	0.004**
Unearned Household Income	-1.10×10^{-7}***	-1.21×10^{-7}***	-1.57×10^{-7}***	-1.09×10^{-7}***	-1.21×10^{-7}***	-1.10×10^{-7}***
Ethnicity (U.S. black)						
British African	-0.24**	-0.54***	-0.55***	-0.24***	-0.54***	-0.25***
French African	-0.002	-0.33*	-0.37**			
Other African	-0.28***	-0.55***	-0.55***			
British Caribbean	0.09*	-0.27***	-0.26***	0.09*	-0.28***	0.09***
French Caribbean	0.09*	-0.26***	-0.27***	0.07	-0.28***	0.06
Other Caribbean	0.12	-0.35***	-0.35***	0.12	-0.39***	0.11
Number of Children	-0.06***	-0.02***	-0.03***	-0.06***	-0.02***	-0.06***
Number of Children <5	-0.26***	-0.19***	-0.20***	-0.25***	-0.19***	-0.26***
Marital Status (Married, Spouse Present)						
Married, Spouse Absent	-0.19***	-0.12***	-0.11***	-0.21***	-0.12***	-0.19***
Separated	-0.12***	-0.08***	-0.07***	-0.15***	-0.08***	-0.12***
Divorced	0.10***	0.08***	0.09***	0.09***	0.08***	0.10***
Widowed	-0.15***	-0.17***	-0.16***	-0.18***	-0.17***	-0.15***
Never Married/Single	-0.18***	-0.11***	-0.10***	-0.20***	-0.11***	-0.18***
Educational Attainment (4+ Years College)						
1-3 Years College	-0.01	-0.08***	-0.09***	0.01	-0.08***	-0.01
High School Diploma/GED	-0.33***	-0.37***	-0.40***	-0.29***	-0.37***	-0.33***
<High School Diploma/GED	-0.80***	-0.86***	-0.90***	-0.74***	-0.86***	-0.80***
Estimated Years of Work Experience	0.02***	0.01***	0.01***	0.02***	0.01***	0.02***
Estimated Years of Work Experience^2	-0.001***	-0.001***	-0.001***	0.02***	-0.001***	-0.001***
Does not speak English at least very well	-0.04	-0.06*	-0.06*	-0.05	-0.06*	-0.04
Foreign Education	0.04	0.22***	0.23***	0.03	0.22***	0.04
Years Lived in the U.S.	0.01***	0.02***	0.02***	0.01***	0.02***	0.01***
Naturalized Citizen	0.04	0.16***	0.16***	0.04	0.16***	0.04

Appendix 4 - Chapter 1. Selection Equations - NY and MIA

	Men			Women		
	1990	2000	2007	1990	2000	2007
Metro/State Unemployment Rate	-0.06*	-1.10*	0.24	-9.14×10^{-2}***	-1.30**	0.15
FLFP in home country	-1.08×10^{-3}	0.01	0.004	0.003	0.004	0.01
Unearned Household Income	-1.11×10^{-7}***	-1.15×10^{-7}***	-1.67×10^{-7}***	-1.42×10^{-7}***	-1.67×10^{-7}***	-1.59×10^{-7}***
Ethnicity (U.S. black)						
British African	-0.19	-0.14	-0.11	-0.03	-0.48***	-0.34**
French African	0.05	0.19	-0.05	-0.21	-0.20	-1.19**
Other African	-0.23	-0.21*	0.03	-0.19	-0.48***	-0.69***
British Caribbean	0.04	0.06	0.05	0.13*	-0.18**	-0.08
French Caribbean	0.05	-0.10	0.002	0.15	-0.23**	-0.23*
Other Caribbean	0.13	0.02	0.01	0.02	-0.16	-0.03
Number of Children	0.04**	0.05***	0.06**	-0.04***	-0.004	0.01
Number of Children <5	-0.06	-0.0001	-0.03	-0.26***	-0.20***	-0.33***
Marital Status (Married, Spouse Present)						
Married, Spouse Absent	-0.39***	-0.29***	-0.10	-0.14*	-0.15**	0.02
Separated	-0.42***	-0.35***	-0.26***	-0.10**	-0.09**	0.02
Divorced	-0.32***	-0.27***	-0.17**	0.14***	0.06*	0.07
Widowed	-0.51***	-0.57***	-0.37**	-0.10*	-0.21***	-0.26***
Never Married/Single	-0.52***	-0.40***	-0.40***	-0.13***	-0.10***	-0.07*
Educational Attainment (4+ Years College)						
1-3 Years College	-0.19***	-0.19***	-0.18***	-0.13***	-0.20***	-0.16***
High School Diploma/GED	-0.37***	-0.47***	-0.41***	-0.43***	-0.57***	-0.41***
<High School Diploma/GED	-0.73***	-0.75***	-0.79***	-0.96***	-1.03***	-0.87***
Estimated Years of Work Experience	0.001	0.003	0.01*	0.02***	0.01*	0.003
Estimated Years of Work Experience^2	2.34×10^{-5}	-0.0002	-0.001***	-0.001***	-0.0003**	-0.0003*
Does not speak English at least very well	-0.04	-0.02	0.12	-0.06	-0.05	0.05
Foreign Education	0.003	0.10*	0.17**	-0.01	0.22***	0.17**
Years Lived in the U.S.	0.01*	0.01**	0.003	0.01*	0.01***	0.01***
Naturalized Citizen	0.001	0.08*	0.26***	0.05	0.18***	0.32***

Appendix 5 - Chapter 3. Full Locational Attainment Models

Atlanta			
	% white	% college	% 3+ income to poverty ratio
Race/Ethnicity (ref. U.S.-born N.H. white)			
U.S.-born black	-33.63***	-2.33***	-9.06***
Foreign-born black	-27.42***	-0.18	-3.43***
U.S.-born Asian	-6.31***	2.87***	0.26
Foreign-born Asian	-6.49***	5.75***	10.13***
Educational Attainment (ref. 4+ years college)			
Some College	-0.29	-3.61***	-2.52***
High School/GED Diploma	-1.09***	-5.57***	-5.08***
Less than High School	-3.84***	-6.68***	-9.32***
Income to Poverty Ratio(ref. 2.00-2.99)			
<1	0.25	1.02***	1.13***
1-2	0.85***	0.96***	2.85***
3-4	4.98***	2.66***	11.0***
5+	6.77***	5.40***	15.43***
Marital Status (ref. Married)			
Single	-6.53***	0.97***	-4.75***
Divorced	-2.32***	0.56***	-1.23***
Widowed	-0.70*	1.16***	0.22
Speaks English at least very well	14.40***	4.04***	13.89***
Age (ref. 25-64)			
18-25	2.43***	-0.47***	-0.17
65+	1.54***	2.13***	3.35***
Naturalized Citizen	5.10***	0.35**	3.38***

Ft. Lauderdale			
	% white	% college	% 3+ income to poverty ratio
Race/Ethnicity (ref. U.S.-born N.H. white)			
U.S.-born black	-25.93***	-9.01***	-12.18***
Foreign-born black	-28.54***	-11.78***	-14.79***
U.S.-born Asian	7.21***	0.17	1.09***
Foreign-born Asian	-0.002***	-5.57***	-0.001***
Educational Attainment (ref. 4+ years college)			
Some College	-1.94***	-3.20***	-1.83***
High School/GED Diploma	-3.49***	-6.01***	-5.19***
Less than High School	-4.81***	-7.22***	-7.51***
Income to Poverty Ratio(ref. 2.00-2.99)			
<1	1.27***	0.47*	-0.45
1-2	1.07***	0.66***	0.60**
3-4	2.75***	3.80***	7.54***
5+	5.84***	7.87***	12.84***
Marital Status (ref. Married)			
Single	0.96***	-1.31***	-3.54***
Divorced	1.19***	-0.96***	-2.03***
Widowed	1.62***	0.06	-0.26
Speaks English at least very well	-0.10	0.34*	1.87***
Age (ref. 25-64)			
18-25	-0.64*	1.94***	4.11***
65+	4.46***	0.36*	-1.31***
Naturalized Citizen	8.70***	6.53***	9.42***

Houston			
	% white	% college	% 3+ income to poverty ratio
Race/Ethnicity (ref. U.S.-born N.H. white)			
U.S.-born black	-17.84***	-0.83***	-3.11***
Foreign-born black	0.23	20.02***	17.26***
U.S.-born Asian	-5.93	152.159***	130.7***
Foreign-born Asian	28.73***	43.25***	44.19***
Educational Attainment (ref. 4+ years college)			
Some College	3.35***	-3.62***	2.04***
High School/GED Diploma	0.02	-7.87***	-2.19***
Less than High School	-9.69***	-13.15***	-11.97***
Income to Poverty Ratio(ref. 2.00-2.99)			
<1	3.10***	3.69***	3.33***
1-2	2.82***	3.03***	4.14***
3-4	14.44***	12.10***	19.72***
5+	21.75***	21.52***	28.56***
Marital Status (ref. Married)			
Single	-1.63***	2.28***	-2.00***
Divorced	1.11***	1.24***	0.89***
Widowed	4.60***	4.19***	4.43***
Speaks English at least very well	25.13***	20.68***	26.11***
Age (ref. 25-64)			
18-25	-0.34	-1.27***	-0.29*
65+	7.02***	7.18***	6.86***
Naturalized Citizen	-11.07***	-12.50***	-10.64***

Miami			
	% white	% college	% 3+ income to poverty ratio
Race/Ethnicity (ref. U.S.-born N.H. white)			
U.S.-born black	-3.21***	-9.66***	-7.88***
Foreign-born black	12.59***	-7.36***	6.07***
U.S.-born Asian	4.22***	0.47	1.05
Foreign-born Asian	16.15***	-0.51	-0.37
Educational Attainment (ref. 4+ years college)			
Some College	-1.49***	-3.69***	-0.11
High School/GED Diploma	-3.21***	-6.21***	-3.16***
Less than High School	-4.18***	-8.44***	-7.63***
Income to Poverty Ratio(ref. 2.00-2.99)			
<1	0.72***	5.49***	5.62***
1-2	-0.25	4.35***	5.44***
3-4	2.31***	8.66***	16.01***
5+	9.01***	15.53***	23.27***
Marital Status (ref. Married)			
Single	1.10***	-0.49**	-3.20***
Divorced	0.65***	0.23	-1.31***
Widowed	1.48***	1.47***	1.42***
Speaks English at least very well	8.19***	4.06***	5.91***
Age (ref. 25-64)			
18-25	1.05***	1.18***	3.31***
65+	1.05***	0.49**	-0.32
Naturalized Citizen	-3.63***	4.03***	6.48***

Minneapolis			
	% white	% college	% 3+ income to poverty ratio
Race/Ethnicity (ref. U.S.-born N.H. white)			
U.S.-born black	-21.755***	-3.47***	-11.0***
Foreign-born black	-15.68***	-1.77***	-9.69***
U.S.-born Asian	-13.75***	-3.03***	-3.88***
Foreign-born Asian	-8.55***	0.98*	-1.75***
Educational Attainment (ref. 4+ years college)			
Some College	1.18***	-7.55***	-1.64***
High School/GED Diploma	0.85***	-10.63***	-1.62***
Less than High School	-4.96***	-11.52***	-5.34***
Income to Poverty Ratio(ref. 2.00-2.99)			
<1	-4.21***	0.70**	-3.31***
1-2	-2.09***	0.88***	1.87***
3-4	4.30***	3.50***	10.94***
5+	5.61***	7.84***	14.56***
Marital Status (ref. Married)			
Single	-6.05***	2.09***	-7.44***
Divorced	-1.56***	0.53**	-1.44***
Widowed	0.53	1.48***	-0.18
Speaks English at least very well	12.04***	4.16***	10.01***
Age (ref. 25-64)			
18-25	1.71***	-0.36	-2.15***
65+	1.24***	3.34***	0.82***
Naturalized Citizen	2.71***	2.51***	3.98***

New York			
	% white	% college	% 3+ income to poverty ratio
Race/Ethnicity (ref. U.S.-born N.H. white)			
U.S.-born black	-26.15***	-8.04***	-5.12***
Foreign-born black	-8.75***	-1.32***	1.58***
U.S.-born Asian	-5.58***	4.21***	3.74***
Foreign-born Asian	-2.23***	3.21***	5.33***
Educational Attainment (ref. 4+ years college)			
Some College	-2.40***	-7.52***	-2.01***
High School/GED Diploma	-3.53***	-10.15***	-3.64***
Less than High School	-7.78***	-12.15***	-9.50***
Income to Poverty Ratio(ref. 2.00-2.99)			
<1	2.64***	2.88***	1.37***
1-2	2.66***	2.95***	4.01***
3-4	7.72***	6.44***	13.72***
5+	15.73***	13.77***	21.20***
Marital Status (ref. Married)			
Single	-1.80***	1.58***	-1.49***
Divorced	-1.47***	1.61***	-0.41***
Widowed	0.89***	1.85***	1.68***
Speaks English at least very well	9.96***	8.78***	13.76***
Age (ref. 25-64)			
18-25	0.99***	-1.23***	-0.61***
65+	4.63***	5.36***	5.93***
Naturalized Citizen	2.65***	-2.19***	-3.99***

Washington D.C.			
	% white	% college	% 3+ income to poverty ratio
Race/Ethnicity (ref. U.S.-born N.H. white)			
U.S.-born black	-32.78***	-10.09***	-4.26***
Foreign-born black	-28.36***	-2.23***	-1.74***
U.S.-born Asian	-7.53***	7.22***	2.92***
Foreign-born Asian	-9.43***	8.26***	6.59***
Educational Attainment (ref. 4+ years college)			
Some College	1.17***	-9.76***	-2.14***
High School/GED Diploma	1.38***	-12.81***	-2.48***
Less than High School	-4.23***	-13.34***	-6.37***
Income to Poverty Ratio(ref. 2.00-2.99)			
<1	0.81**	8.14***	7.26***
1-2	0.35	5.15***	7.67***
3-4	2.00***	8.75***	16.34***
5+	3.64***	14.09***	20.21***
Marital Status (ref. Married)			
Single	-5.22***	2.47***	-4.10***
Divorced	-1.96***	1.01***	-0.83***
Widowed	-0.53*	2.61***	1.15***
Speaks English at least very well	9.91***	5.00***	6.28***
Age (ref. 25-64)			
18-25	2.57***	-1.92***	-2.89***
65+	2.62***	5.07***	2.35***
Naturalized Citizen	2.73***	2.01***	1.3***

West Palm Beach			
	% white	% college	% 3+ income to poverty ratio
Race/Ethnicity (ref. U.S.-born N.H. white)			
U.S.-born black	-25.96***	-9.47***	-12.74***
Foreign-born black	-12.87***	-4.47***	-3.02***
U.S.-born Asian	0.48	3.97***	4.72**
Foreign-born Asian	-0.33	2.69***	5.39***
Educational Attainment (ref. 4+ years college)			
Some College	-0.31	-7.72***	-0.60**
High School/GED Diploma	-2.69***	0.22	-2.87***
Less than High School	-9.87***	-0.78***	-9.18***
Income to Poverty Ratio(ref. 2.00-2.99)			
<1	-1.09**	-6.50***	-0.06
1-2	0.1	-2.74***	0.89***
3-4	5.70***	2.03***	9.27***
5+	10.84***	8.73***	15.16***
Marital Status (ref. Married)			
Single	-1.65***	-0.89***	-3.89***
Divorced	1.02***	0.23	-1.43***
Widowed	2.51***	0.48*	0.06
Speaks English at least very well	11.07***	8.05***	10.43***
Age (ref. 25-64)			
18-25	0.61	0.10	1.62***
65+	10.33***	3.21***	2.19***
Naturalized Citizen	6.58***	3.39***	4.50***

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